The
CHILDREN'S NEWSPAPER
AND CHILDREN'S PICTORIAL
The Story of the World Today for the Men and Women of Tomorrow

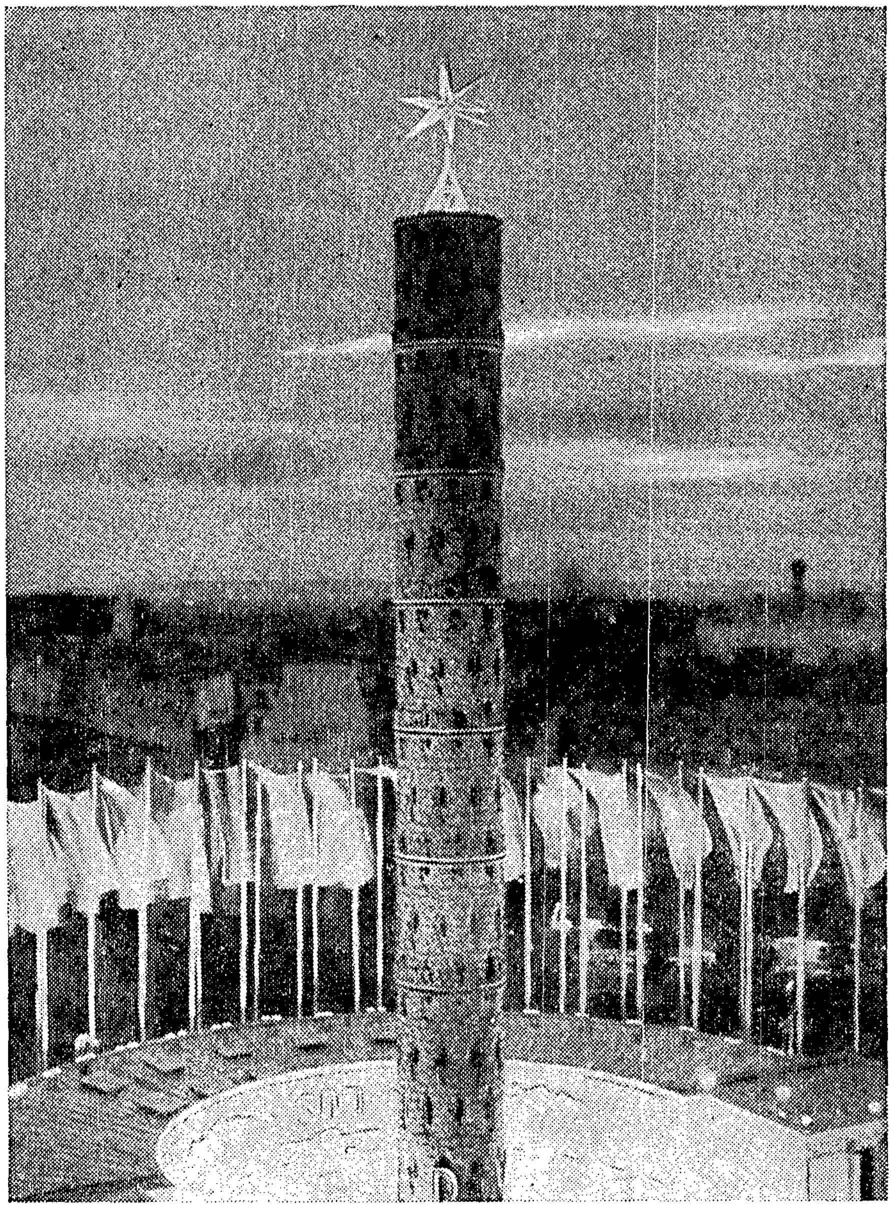
Number 966
Week Ending SEPTEMBER 25, 1937
EDITED BY ARTHUR MEE
Postage Anywhere One Halfpenny
Every Thursday 2d

The World Crying Out For Steel *See page 7*

THE STAR OF PEACE SHINES OVER PARIS

The Pavilion Which Calls on Men to Think and Choose

FINE SPECTACLE AT THE GREAT EXHIBITION


This fine column, crowned with the Star of Peace, is the great feature of the Peace Pavilion at the Paris Exhibition

On the heights of the Trocadero in the Paris International Exhibition a magnificent column flashes in green and gold against the sky.

On its base, in lettering twice as tall as a man, is the Latin word PAX, while immediately behind it stands the Peace Pavilion, which all this summer and for many weeks yet is the goal of all thinking men and women visiting this famous centre of civilisation. The Pavilion is the exhibit of the International Peace Campaign.

Seen from afar, say through the arches of the Eiffel Tower at the other end of the beautifully laid-out grounds, this dominating column reminds one of the Trajan Column, which was a Caesar's expression in enduring stone of what man's might stood for nearly nineteen centuries ago. A view from immediately below, however, reveals not the pomp and panoply of a Roman Triumph, the armed warrior and the hapless captive, but the olive spray emblem of Peace, with the title of the International Peace Campaign in six languages.

From the top of the column rises a huge star with rays that catch the light shining on them from sun or searchlight, a symbolical star reflecting the rays of the rising sun as they come to it across the Exhibition Buildings.

Immediately after the morning light has touched this Star of Peace it gives a glow to the colours of the flags of all nations in the League, for these 58 banners form almost a circle as they wave above the flat roof of the Peace Pavilion, a snow-white building of outstanding charm in this company of buildings which architects of many lands have designed in friendly rivalry. But there was no rivalry in producing this building, Austrian, Belgian, and English artists and craftsmen cooperating with French architects in creating this noble testimony for Peace.

The whole aim of this Pavilion is to inspire the people who pass through it with such enthusiasm for world peace that they will absorb with all their will the knowledge and information displayed on the walls inside. Here are visual lessons which no one is likely to forget, the lessons of Peace and War, in white and in black, with that ever-insistent reminder that it is the man who lives Today who must *choose* what Tomorrow is to bring him.

The first room shouts the word Choose in all languages from its walls, where on the black side are pictured the horrors of the battlefield and on the white the building up of the world by workers in home and field, in office and in studio. Here, too, are figures which show how the colossal expenditure of armaments from 1930 to 1937 might have been spent on useful things—on the improvement of housing, for example.

The second room is not a cheering one, for it shows what war has meant to Abyssinia and to Spain; but on the door through which we pass out are the words *Against All This*, and we enter a room with pictures of people of all the countries of the world and a list of the thirty existing international peace organisations.

The League of Nations room completes the series, oval in shape, and so designed that symbolic sculptures and unforgettable slogans can be illuminated. A striking and unusual effect is obtained by the elongating of the images on the curved wall. In this room, too, are detailed sections showing the kinds of work done by the League, and there are information bureaus and a library of books on Peace.

The whole Pavilion within and without is an example of the most modern propaganda the wit of man has conceived, and it appeals both to the intelligence and to that human sympathy which is deeply planted in humanity.

It is the answer of the believers in the brotherhood of man to those Dictators who appeal to human instincts which are lower, though not altogether evil.

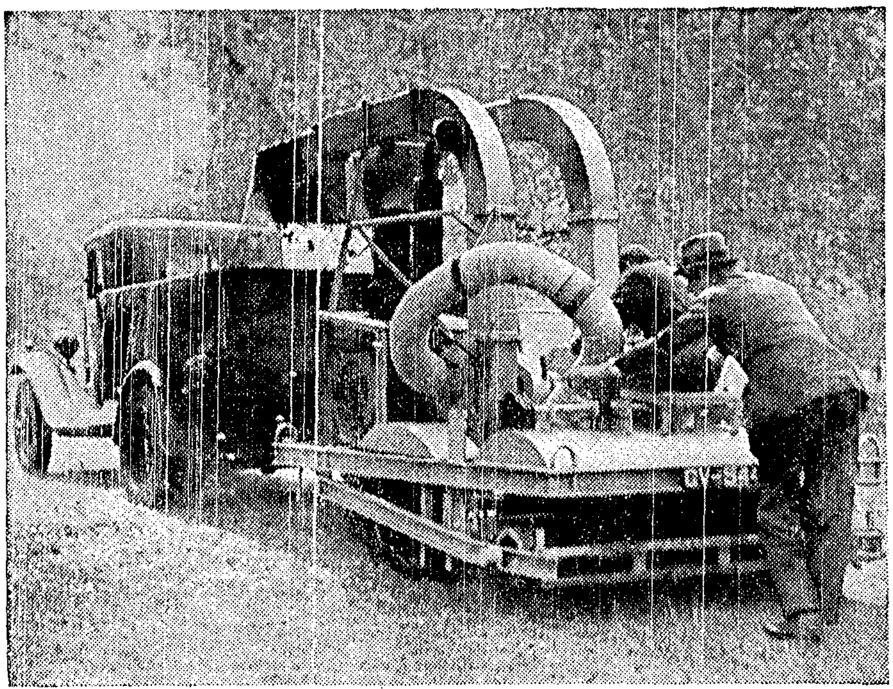
Man, it has been truly said, is a gregarious animal, and it is essential that he should combine for the purposes of peace as for any other purpose. When trouble threatens a family its members are usually drawn closer together, and it is the same in the greater units of tribes and nations.

Yet this social instinct has the weakness of diminishing the individual need for decision, and therefore is often a cause of conflict in the world. For one strong or magnetic personality will often acquire amazing power over those who allow the social instinct to outweigh individual judgment. A leader may not be as far-seeing as he should be for the general good of the whole race of man.

Why is it that year after year there is the same astounding enthusiasm shown by the German people at Nuremberg? Why are the annual processions in Moscow so much appreciated by the Russian people? It is, in a word, because these things create confidence—confidence that numbers give against an evil known or feared. There have been few leaders who have been able to sway these great gatherings without appealing to instincts as primeval as any in the animal kingdom. Fear is one of these

Continued on page 2

In the Track of the Litter Lout


This mechanical picker-up of waste is being tried in London parks; it is the latest of what Lord Dufferin calls the anti-litter cranks

THE SMITH WHO FORGED A NATION

Leader of a Brave New State

One of the youngest nations in Europe has lost its great leader.

When the sorrowful news became known that Thomas Masaryk, first President of Czecho-Slovakia, was dangerously ill the whole world mourned with his people.

Czechs and Slovaks knew him as the blacksmith's son who had welded them into a nation, who had released them from the tyranny of the Austrian Hapsburgs, and who had set their feet on the path to a new future. But he was more than a Czecho-Slovakian. He was a citizen of the world, who told both Czech and Slovak that it was their part not to pursue a narrow nationalism but to strive to build the New Europe on the ruins the war had left. For him his lifetime's motto was that which Edith Cavell spoke: Patriotism is not enough.

The Welfare of All

On his 70th birthday, 17 years ago, he laid down his guiding principles in a speech to his people. He bade them hold fast to the ideal of liberty, but to remember that the true prosperity of a nation lay not in its wealth or power, but in its resolve to administer even-handed justice to all, rich or poor, gentle or simple, and to advance to the common welfare of all.

These were the ideals which made this President, who scorned the idea of becoming a Dictator, and never forgot the common people from whom he sprang, one of the truly great figures of our time, with a secure place in history as well as in the memory of Czecho-Slovakia.

More than 75 years ago he was a sturdy boy of 12, blowing the bellows of the village forge of Cejc in Moravia, and in its beginnings and continuance there is something familiar in a story which takes its place among that of the world's Thousand Heroes.

His Parents

His father was a coachman on the Imperial Austrian estates, and barely able to read or write; his mother was one of those shrewd women determined that her son should be better educated than his father; so Thomas went to school in any village to which his parents moved.

He took to learning as a duck takes to water. His inquiring mind fastened on anything that came his way, and he gained admission to the High School at Hustopec. But now came a hitch. It was only by the grudging consent of his father's superiors on the estates that he had been allowed to go to school, and when the first chance of higher education at a training college came he was pronounced too young.

Up the Ladder of Success

So Thomas went to a blacksmith's forge to earn his living. One day, smoke blackened and grimy, this youth who was to hammer out on another forge the destinies of a nation was recognised by his old schoolmaster. Master Ludgwig got him away from the forge and found him a place as a pupil teacher. There he often went hungry, but he drank deeper of the well of knowledge.

He went on and on, seeking the universities of Vienna and Leipzig, and becoming himself a university lecturer, and then a Professor of Philosophy when he was 31 at the University of Prague. He was now a grown man with a man's interest in social problems and politics, and it was no surprise to anyone when he was returned to the Austrian Parliament. He was there the leader of a tiny group who persevered with his own ideals, often to the discontent of the Czech nationalists, who would sacrifice anything, and even pay the price of Russian intervention, to secure their political aims in Austria. That Masaryk would never do, though he was as bitterly opposed as any to Austrian tyrannical misgovernment. He ploughed his own furrow, and they called him the lonely Slovak of Prague.

But this lonely philosopher showed his mettle when war broke out, escaping from Austria to avoid fighting for her cause, and marshalling Czechs and Slovaks against her all over the world. When the war ended he set about his life task of making a State, and has himself written the story of the difficulties of incorporating in it millions of Hungarian Slovaks, Ruthenes of the Rumanian border, and three million Germans in Bohemia.

He succeeded, and led his people from Hapsburg servitude into the green pastures of freedom.

The change was made without bloodshed, and Czecho-Slovakians by universal acclamation made him their first President, a man who gave to the world the example of utter devotion to truth and of steady faith in an ideal.

Continued from the previous column

THE WARS

The Pirates of the Mediterranean

The two wars of the world go on. In the Far East Japan is increasing heavily the weight of her attack on China, and in Spain the long and bitter civil war continues.

One good thing has happened concerning Spain. A collective scheme has been agreed upon for stopping the pirate submarines that have been sinking ships in the Mediterranean. The sudden appearance of pirates in that sea has been one of the terrible surprises arising out of the Spanish war, and the success of the conference at Nyon, where Britain and France and the interested nations agreed to patrol the Mediterranean, has given rise to the hope that one grave danger of new developments has been avoided.

On the other hand, the situation has not been eased by the declaration of Herr Hitler that for Germany the real Spanish State is that of General Franco, and that Franco is fighting "the hirelings of Moscow."

All Eyes on the Tomato

The old market-place is in the middle of Cambridge, a market town with a university built about it.

In the market-place is Great St Mary's, the University church, and the Corn Exchange, and, among the stalls where they sell old books and fresh vegetables, the fountain.

It stands where the old conduit which still keeps Cambridge streets sweet and clean with running water came to a head. But neither the Corn Exchange, the church, nor King's College Chapel over the way draws all eyes as the fountain does today.

It is not for its beauty but for a tomato plant which has sprouted on its venerable surface. The mystery of its presence is explained as having been the fruit of a playful "rag" of the undergraduates when spirits were high and the year was young. In the course of the affair ripe tomatoes were flung here and there, and one of them, it is declared, splashed on the fountain.

The seeds of the tomato, though they fell on stony ground, survived and throve. A tomato plant appeared, and now Cambridge is breathlessly awaiting the arrival of ripening fruit to prove that a tomato cast at the head of a friend may reappear like bread cast upon the waters.

CELLULOID

News For the Home Office

INFLAMMABLE TOYS AND COMBS

It is announced that the Home Office inquiry into the dangers of celluloid, which has not yet sat, will take several months over its labours.

Sir Vivian Henderson, who is much interested in Fire Brigades and Fire Prevention, will preside, and we offer a few more facts for his consideration.

The sun shining through a shop window may sometimes set a celluloid comb alight.

We were offered a celluloid comb for 2½d in a big West End store.

A woman wearing a celluloid comb at the seaside had her hair set alight, and another woman, at another West End store, suddenly found the celluloid handle of her bag ablaze and narrowly escaped serious injury.

A Fair-Ground Scene

On the Kingsway fair ground at Luton fire broke out in a tent where the side-show illusion of "Yvonne the headless girl" was being presented. An electric wire fused, a celluloid shade used in the illusion caught fire, and Yvonne, rushed to safety by men who tore down the drapery about her, just escaped without being also set alight. The peril to the people in the tent was evident.

Worst case of all, though not without others like it before, was that of two-year-old Phyllis Reynolds of Centre Street, Bolton. Fat spluttered from a pan on the fire, scalded her arm, and set fire to a celluloid doll she was nursing. The doll blazed up so fiercely that not only was the little one's leg burned and her face scorched, but the doll's head, falling off, set the hearthrug blazing. The child's mother was happily close by to stamp out the fire on the rug and send a message to the Infirmary, where Phyllis was promptly carried to have her burns dressed.

Though the L C C Celluloid Act, 22 years old, governs the storage of sheet celluloid, there is no regulation to cover piles of celluloid articles for show or for sale. Such is the way in which our laws are made.

THE STAR OF PEACE

Continued from page 1

instincts; it may be fear of hunger, of oppression, or of a clever and unscrupulous race.

To those of us who have long been free from such elemental enemies of happiness this appeal by the Continental Dictators to fear of their neighbour reads strangely and is almost incredible, but there is real fear in Russia and Germany on which an evil spirit works. Fear breeds hate, with cruelty in its train; and if the instinct of hatred has any definite object against which it may be expressed there is immediate relief to the mind. Hence we have such things as the continual oppression of the Jew.

Another instinct which Dictators use for the purpose of obtaining a loyal and obedient following is the human desire for uniformity. The uniform and the idea of uniformity are powerful factors in creating confidence. Perfection in drill even to the goose-stepping armies of workers with spades is an expression of it; it has an inspiring effect on mankind, as community singing has, at a football match or anywhere else.

The danger is that a well-drilled community may either build up or break down, for the drill-ground makes men like machines, and one man's word is law. The freedom-loving Greeks gave such rulers the name of Tyrant, and they evolved ordered government by the many to remedy this evil—a form of the Parliamentary government which has since become the foundation of democracy, and which alone can give true liberty and happiness to any intelligent people.

LITTLE NEWS REEL

The telephone service with trawlers, coasters, and other small craft off the east and west coast is now working.

A storm in Nova Scotia has damaged enough apples to fill 150,000 barrels.

About 200 young swallows found perishing in the eaves of Vienna houses have been collected and carried to Venice by aeroplane.

Rumania, which is already under martial law, is to continue so for another six months.

A new German shell is said to be able to melt steel like snow.

Work is beginning on the welding of rails for a 19-mile track for the purpose of reducing noise; the idea is being tried on the underground line between Kennington and Highgate, rails being welded together in lengths up to a hundred yards.

It has been decided that the new threepenny-piece and the old shall remain in use side by side, the little round one and the thick twelve-sided one.

Beautiful models of trains, ships, aeroplanes, and other engineering marvels, many of them working, are to be seen at the Model Engineer Exhibition in the Royal Horticultural Hall, Westminster. The exhibition comes to an end on Saturday.

The Lovely Hoopoe

The hoopoe has again visited our shores, and well we might wish that he would do so more frequently.

He is a lovely creature, about the size of a thrush, but looking bigger because furnished with a wonderful crest, which he erects and spreads when he alights as a lady spreads a fan, the crest feathers falling back gracefully into place as the bird settles again.

The colour of the common hoopoe, the one that occasionally comes here, is a pale fawn, decorated with black and white bars. The crest is very fine, and the bill black and long. Altogether he is a very handsome fellow, and knows it. His name is an imitation of the cry he utters. He says "hoop-o," or something near it, just as the cuckoo says "cook-oo."

The long bill helps him to dig in the earth for worms, and that is how he normally feeds. When kept in captivity he has to be provided with worms buried in sand in a box, so that he can feed naturally.

THINGS SEEN

The rich red berries and the flower of the wild rose on one stem.

A lorry-load of 100,000 apples toppling over at Swanley.

A shark crashing into a Clyde passenger steamer.

Two thousand Irish pilgrims passing through London on their way to Lourdes.

A bat flitting round and round an owl sitting motionless on a chimney.

THINGS SAID

If you put lawless instruments in the hands of lawless men you must expect lawlessness to happen. Mr P. M. Oliver

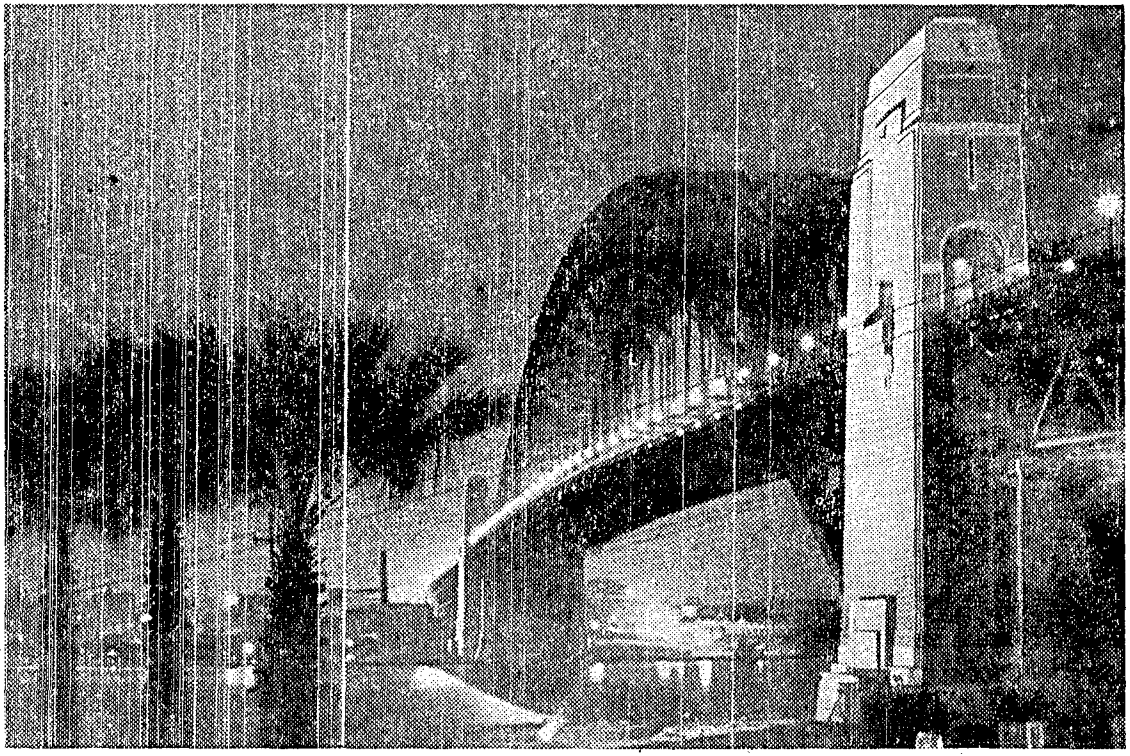
It is no good speaking with strong voices unless we are prepared to prevent acts of aggression by force.
Lord Hartington

We must be a fortress against those who try to introduce decay into Europe.
Herr Hitler

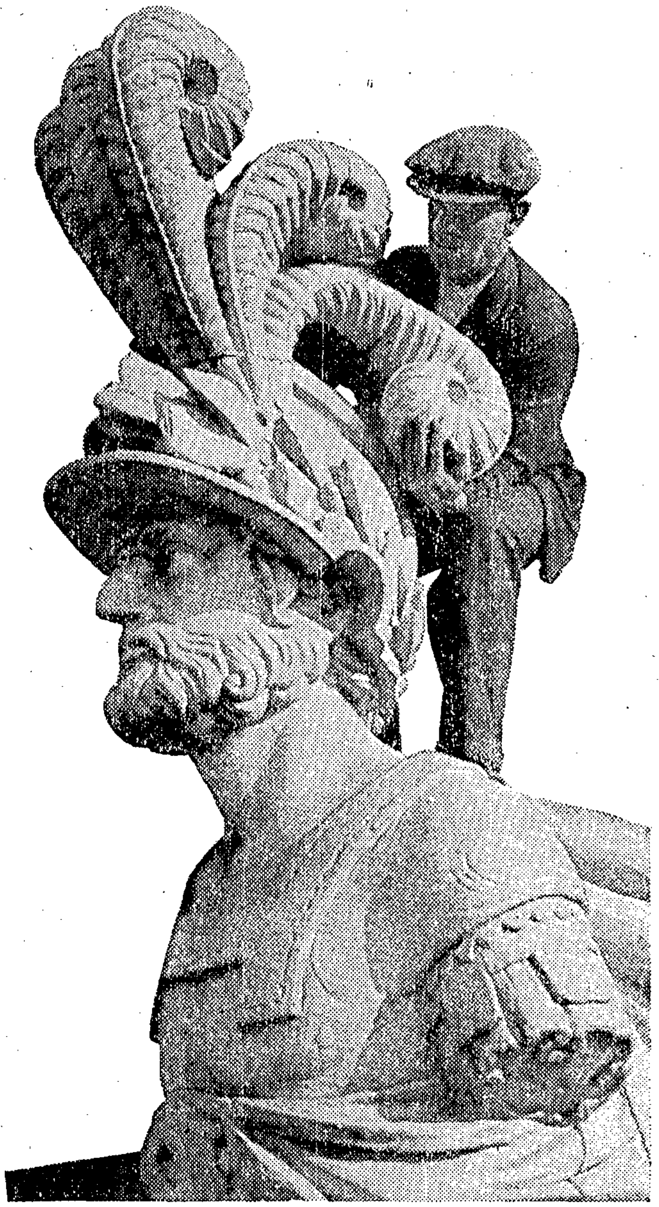
The grit of our evening students is amazing.
Principal of Poplar Engineering School

Camping Days · Sydney Bridge By Night · Garage Organ

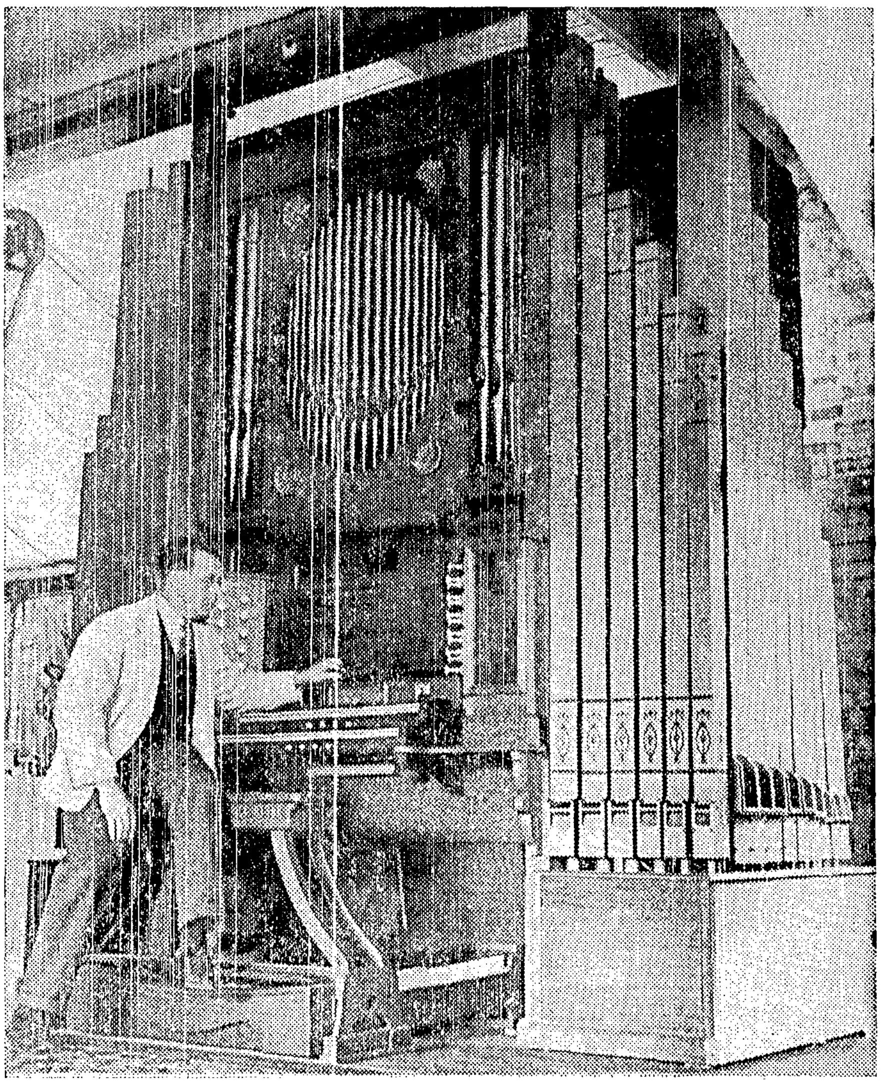
Camping Days—Sampling the cooking at a camp for working girls and girls from public schools held near Bridport



Australia's Great Bridge—An impressive study of Sydney Harbour Bridge by night



A Relic of the Days of Sail—The figurehead of the old Formidable above the office at a shipbreaker's yard in Woolwich



Garage Organ—Mr H. T. Adams making adjustments to the organ which he has built in his garage at Ham Common in Surrey. See page 4

Christmas is Coming—Making toys for Christmas in ideal surroundings at the New Forest toys factory in Hampshire

THE ORGAN AT THE GARAGE

A Remarkable Achievement

Organ recital tonight at eight o'clock.

This was the notice we saw chalked on a board against the petrol-pumps at a wayside filling-station as we walked across Ham Common, the charming bit of country between Richmond and Kingston. As we read the notice we thought it an omission not to indicate where the recital was taking place—probably in the church near by.

Then, as we passed the open door of the garage, we saw at the back a curtain partly drawn, and beyond it the gilded pipes and the keyboard of an organ. On closer examination it proved to be a magnificent instrument with no fewer than 552 pipes, entirely electrical in its action, and up-to-date in every way. It has the most modern improvements in organ-building, and the mechanism is so complex that only an organist who is also an electrical engineer could fully appreciate it. The wind supply is provided by a centrifugal fan driven by an electric motor, which also drives the dynamo supplying low-voltage current for the electro-pneumatic action.

But the astonishing thing about it is that it was entirely built by the proprietor of the garage, Mr H. T. Adams, *who knew nothing about electrical organs when he started work on it more than five years ago.*

All Made by Hand

It is little less than a miracle, and as we talked to Mr Adams we felt that we could only take off our hat to a genius. It was not easy to get him to talk, for he is very modest about his remarkable achievement. He let us peep into the back of the organ while it was being played, and it seemed almost incredible that a man could have taught himself to make such an intricate and elaborate thing without experience.

"Surely you bought some of the parts ready made," we said to him.

"Yes, the small metal pipes," he replied; "but the rest of it—the big wooden pipes, the case-work of polished Australian silky oak, the console, the wind-chambers, the electro-pneumatic action, hundreds of electrical contacts and relays, even the dozens of switches—all I made by hand."

The garage in which the organ was built set a limit to its size, but it is twelve feet high, nine wide, and ten deep—by no means a miniature instrument. It is a delight to look at, and has a glorious tone.

As we walked away under the trees of the common we looked back at the little garage with its petrol-pumps and oil-tanks and work-benches and wondered if we could believe our eyes and ears.

We had met a great artist and an excellent craftsman. *Picture on page 3*

From the Equator to the Arctic

In the heart of the Sahara, 700 miles south of Algiers, is the oasis of El Golea, where Father de Foucauld, whom the desert nomads named the Knight of the Sands, passed away from the scene of his labours. A tiny church is being built there in his memory and will be consecrated in the coming winter. It is the desert's first church. At the time the news of it comes from the blazing sands of Africa a report comes from Russia of a human habitation of the late Ice Age found among the glacial deposits of the River Don near Kostenko, and another discovery of Eskimo children's toys buried deep in Alaska, near the Bering Sea, a thousand years ago.

ALL IS SAFELY GATHERED IN

A Nation's Song of Praise

Throughout the land the voice of praise and thanksgiving rises from our places of worship for harvest safely gathered in.

Ricks are thatched, barns are full, we hope; in many places the plough is breaking up the land for the sowing of corn that is to lie through the winter. The last word is with the worshippers, their song a devout acknowledgment of benefits received.

In spite of the chill and rain of spring farmers were blessed with magnificent weather, for the harvest, exceptions where, as in parts of Scotland, storms broke the sunny sequence proving the rule that summer and harvest in Great Britain can be as happily timed as anywhere else in the world.

We are but a small country, but even so there is a marked difference between the times at which harvesting begins and ends, from the early South to the tardier North with its waiting for the ripening of the grain, six weeks after the first ripe ears fell in England.

It has been noted as a pleasant echo of old-time methods that in parts of England this year, with casual labour short and the crops suddenly ready for the reapers, farmers have pooled their resources and helped one another with men, machinery, and horses to gather all in before the weather should break. Such was the custom of Merrie England when, denied supplies from abroad, food for the winter and following spring was to be had only from our own fields.

That old spirit of cooperation is not quite dead, although with so much machinery available the occasion for its exercise is now less necessary than in days of yore. But there are those who remember, men like the fine old Leicestershire farmer who, grown beyond his task a few years ago, sold all his fittings and implements, yet reserved one solitary wagon. Asked why he did so he replied that if he had not kept that he would have nothing to lend a neighbour at harvest time.

Harvest festivals to our forefathers were, next to the great Church festivals of Christmas and Easter, the most important observances of the year. Though the people numbered but a few millions they cultivated as great an area of land as we do. It was imperative for them to do so, seeing that they were the nation's sole providers. Their yields did not compare with ours, for they had neither our improved strains of seed nor our scientific methods of cultivation; they had to do their best with the resources available or famine would have fallen on the land.

How they harvested in wet summers is a mystery to us. All the corn had to be cut by hand—in the North with a tooth-edged sickle, in the South with a smooth one. And there was not one cutting but two. To release the harvested grain the ears were beaten with flails, so the reapers cut the ears off short and left the straw standing for a later mowing, when the stalks could be gathered for thatch or litter.

Very hazardous were such harvests, very thankful and heartfelt the festivals which celebrated their accomplishment.

A STRANGE EVENT IN THE ARCTIC CIRCLE

The Miraculous Tide of Life

Swedish Lapland has been the scene this summer of one of Nature's marvels, an animal plague and an immediate increase in the numbers of the natural enemies of the animals.

The discovery was made by a traveller who has communicated his results to The Times. Holidaying and bird-watching 150 miles within the Arctic Circle, he found himself in the midst of multitudes of voles. Here they were in their myriads, the woods and ground-vegetation rustling with their countless numbers as they moved to and fro. Here, as has happened in England in the presence of similar animal swarms, the multitude of voles had been mysteriously noted by birds of prey, which had assembled to profit by the living harvest.

Not only was there a great increase in the number of adult rough-legged buzzards, but *the number of eggs laid by the birds was more than twice the average.* In ordinary years we expect a buzzard's nest to contain two eggs, and no more; but in the presence of this unusual abundance of food the nests contained on an average five eggs each; and throughout the day the father birds were carrying to their nurseries an unending succession of voles, which the waiting mother bird broke up for the nestlings.

This is a vivid example of the way in which Nature provides her own checks on a species which grows excessive. It does not operate in the same way in our own land because, by destroying birds and animals which should play the part of guardians of our woods and fields, we have made plain the way of little enemies that multiply at our expense.

The Forest of Dean saw a tremendous plague of field mice last century. The rodents destroyed a great number of young trees and did extraordinary damage before their raids could be successfully challenged, for birds had grown few in the locality.

The consequence was that the teeming raiders had very much their own way in spite of cats, traps, and other devices, until many pits were dug in their tracks. These pits caught them in such numbers that a hundred thousand were taken by this method alone. But in the meantime, by that mysterious wireless which seems to exist in the wilds, birds began to arrive from far and near, hawks, owls, kites, and other flesh-eaters, and they had a great share in reducing the plague.

BLACK AND WHITE GOLD

For a long time the German coalmines have been models of their kind.

A young British officer who was in Upper Silesia in the troubled days after the war was full of praise for the German methods, especially the lay-out and good order of the works, the perfection of the winding machinery, and the provision for the comfort and health of miners. Pit-head baths were a matter of course.

A party of British students who recently visited the German mines has returned full of praise for all that was seen. The Germans call their coal black gold, which reminds us of the term white coal used to describe electrical current derived from water-power.

The "black gold" is to become "white gold" when the coal is distilled into petrol. This is regarded by the Germans as essential to their prosperity and security. Coal is certainly gold to a modern nation, for it is the chief basis of industrial wealth. Therefore the utmost care in mining operations is justified, apart from the life factor.

The visit of the British students to Germany has been matched by a visit of German students to Wales, and we are told that the visitors were shocked by the disorder of some of our mines, as well they might be. Ponies are still used in our British mines, a fact which is in itself a criticism.

LIVING IN CROWDS

The Strange Grouping of Mankind

The strangest thing about our people is that they live for the most part on a few crowded small spots, the chief of which is Greater London. So small are these spots that, although Britain as a whole is only a small island, it would not be much smaller if they did not exist.

That is why the idea of crowded Britain is so misleading. Most of the land is almost empty.

At the British Association Meeting at Nottingham Professor C. B. Fawcett showed that what is true of our population is true also of all the world.

The world's population now amounts to about 2100 millions, and of these three-quarters live in four regions of the world. Those four regions amount to a little more than an eighth of the world's land area.

Crowds on the Small Area

And what is the world's land area? Our globe is mostly water, and the land surface is only 56 million square miles, of which about 34 millions are useful. It is the small area of the land that causes territorial dispute and war.

The useful area being so small, one would think men would spread themselves over it, but it is not so. The four regions which hold three people out of four are Europe, the eastern part of North America, the Far East (China and Japan), and India with Ceylon.

In the recent history of the world there has been only one population change of world magnitude—the crowding of people into the eastern part of the United States, which began in 1620 and has taken place mainly in the last hundred years.

In Europe people have multiplied sixfold since 1700, and probably China and India have trebled their populations in the same period of time.

Growth of Great Cities

Within the four "crowded" regions the people have increasingly crowded into small spots, as we have noticed in our own land.

In 1937 the world has about sixty cities with a population of a million or over. Perhaps a dozen of these have as many as five million people, and together these include perhaps a twelfth of all mankind. Yet only as recently as 1800 no city in the world had a million inhabitants!

The numbers both of these "million cities" and of their inhabitants are increasing, and if the trend continues unchecked for a generation or two our grandchildren may live in a world which will have a majority of its inhabitants housed in two or three hundred such mighty cities.

The drift of population to the towns seems to be increasing in all countries; crowding, that is, is on the increase, and this drift will increase farther if, as seems possible, agriculture continuously resolves itself into a mechanical industry, with a larger output for far less labour.

If the White Races Decline

It is the production of food with less labour which mainly reduces agricultural populations. In England machinery has been the main cause of rural decline, aided by the importation of cheap oversea food raised on fertile soil.

Mankind is sociable, and most men love to live in closest association with their friends, and so human desire is added to the economic drive.

Finally, we have to remember that the white populations seem to be set upon race suicide. The first results of the process are beginning to appear. If the white races decline the coloured races will take their territory. If all races decline there will be a general depopulation, but the smaller peoples will still be found crowding together in the big towns and cities.

HONEYCOMBING THE GROUND

No explanation has been offered of the strange subsidence in a playground at Plumstead, when a cavern suddenly opened beneath the swings of the children playing there; but for some subsidences at Earlestown in south-west Lancashire a curious reason has been found.

The district is a mining area, and owing to underground operations 13 cottages have been so damaged by the sinking of the ground beneath them that they are no longer fit for habitation. Besides the damage to cottage property the gas and water mains and the tubes for underground electric cables suffer so much by subsidence that the repairs have cost the urban council £300 a year in the last five years.

THE RIGHTFUL HEIR

The flag of Abyssinia was seen flying in the City the other day.

When the Emperor Haile Selassie visited a firm of metallurgists in Hatton Garden the flag of Ethiopia was flown over the premises while he stayed there inspecting the refinery and assaying departments.

The firm deals with platinum, gold and silver, and precious metals found in Abyssinia, which, notwithstanding the racketeering of which the Emperor has been the victim, is still rightfully his kingdom. Seldom has there been an exiled monarch to whom more sympathy has been extended—*or less help.*

A PRICE ON THEIR HEADS

The wild pigs of New Zealand have been declared outlaws.

In order to help settlers who have complained of the way wild pigs attack lambs on back country sheep farms the Government has decided to pay out one shilling for every wild pig killed.

These wild pigs are the descendants of pigs that escaped from farms, or from Maori villages, and found refuge in the dense bush that still covers much of the hilly inland portion of the land. There they have increased in numbers, and when food is scarce they invade the farms. Though their usual food is the roots and berries of the bush, they have unfortunately acquired a liking for the flesh of young lambs. So the sheep farmers have declared war on them.

THE BICYCLE BRAKE

A Sussex teacher who has been giving cycling children lessons in the Highway Code, stressing the importance of the appropriate signal with the hand when about to turn, has made the discovery that the employment of some of the signals may actually endanger the child's life.

When the right hand has to be used for a sign the right brake cannot be applied. That, in some makes, is the important brake, acting on the back wheel, and the consequence is that at such a moment the rider must rely on the left hand, which actuates the brake working on the front wheel. As every cyclist knows, this front brake if quickly applied with force pulls the machine up, and may throw the rider off.

All back brakes should by law be actuated by the lever used by the left hand, so that the right hand may be free for signals.

THE WHALE ASHORE

One of our lady readers, having noted our statement that whales cannot be preserved for our museums, writes to tell us that she has seen a preserved whale at an entertainment park.

But there is a difference between what can be endured for a time in the tent or shanty of a showman and what can be admitted to a public building for all time.

The hide of a whale is so impregnated with oil that it cannot be tanned or cured. The oil remains part of the thick skin, and even if the skin did not break down as the oil became rancid the odour would make it impossible for visitors to remain in the room where the carcase was exhibited.

At School in the Firing Line

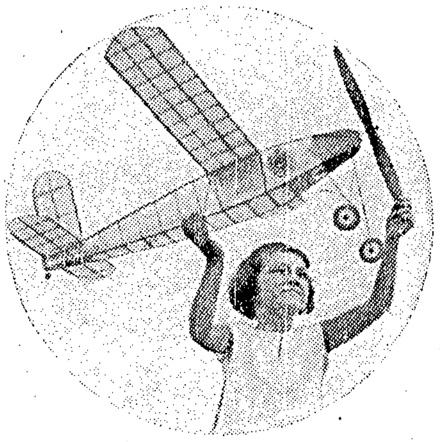
Almost all the news we receive from Spain is of the fighting there, but one traveller has been much impressed by the way in which the Government is stamping out illiteracy even while the shadow of war is over this sunny land.

Schools are being built while the guns are thundering near by, and for what is said to be the first time in history soldiers are at school at the front.

With the enemy a few hundred yards away, with planes above and mines below, Spanish soldiers are learning to read and write. The schools are actually in the trenches, and there are 400 soldier-teachers making a drive against ignorance. One may steal along the trenches and come to dug-outs where groups of soldiers are studying, some writing out their A B C, others spelling their way through little words, others reading or writing though six months ago they did not know their letters.

The teachers are doing wonders. It is reported that in one month 16 per cent of the illiterate soldiers in one brigade were taught to read and write.

It must be tragically true that if this ignorance had been swept away before there would have been no cruel civil war.



Air-Minded

TO OUTDOOR ADVERTISERS

An American writer, Mr Ogden Nash, has made a parody of the well-known poem on trees:

I think that I shall never see
A billboard lovely as a tree.
Perhaps, unless the billboards fall,
I'll never see a tree at all!

The word billboard is American for hoarding.

THE OLDEST DAILY

The C N sends its greetings to the Belfast News-Letter, wishing it many happy returns of its 200th birthday.

Belfast may well be proud that its newspaper has completed two centuries of continuous publication, during the last 100 years of which it has appeared as a daily.

It was in September 1737 that the News-Letter first appeared, and today it may boast that, apart from Lloyd's List, it is the only newspaper in the British Isles that has been published continuously for 209 years.

It began its career when few people in villages could read, folk gathering in the inn to hear it read. Many were so anxious for news that night schools were started for men to learn enough to spell their way through the columns of the News-Letter.

THE SLOW BOY

A high-school girl was sitting next to a famous astronomer at a dinner-party. "What do you do?" she asked, after they had been chatting a few minutes.

"I study astronomy," he replied.

"Goodness!" said the girl. "I finished astronomy last year."

CHEERFUL FACTS

If we represent the actual production of goods in the United Kingdom in the year 1930 by the figure 100, what will be the relative figure for production this year?

In June 1937, the Board of Trade tells us, the figure was 134. That is to say, production was rather more than a third bigger than it was seven years ago. The measure is by quantity; that is to say, by actual goods made, and not by their money value.

There has been great variation as between different industries. Mining has only just held its own, but building is up 56 per cent. Iron and steel is even better, being up 66 per cent.

NOT FORGOTTEN

Many officers and men who had served under Lord Jellicoe, Admiral of the Fleet, in the perilous years of the war went to Whale Island, Portsmouth Harbour, the other day, when a bronze medallion portrait of the admiral was unveiled on the War Memorial in Whale Island's Church. The Navy, ever mindful of its great traditions, does not forget its admirals, who like Lord Jellicoe was so resolute to preserve them.

Nor is Lord Haig, who kept intact the British lines in Flanders, forgotten, though his work has been so bitterly assailed by some who never shared his difficulties. To him also a memorial is to be unveiled in Whitehall, most likely on or before Armistice Day.

HONEY BEES

A large jar of honey fell from a cart in Strehlen, Silesia, and the contents ran over the street. In a few minutes thousands of bees were on the scene, and traffic was held up until they had consumed the last drop.

The Sleuthhounds of Sussex

We notice the sum of £30 18s 9d for bloodhounds in the accounts of the costs of administering justice in Sussex. It will probably surprise many people.

Bloodhounds remain our supreme trackers. Their aid is not only invoked for the detection of criminals: they are just as delighted to find a lost wayfarer or a strayed child as the man most urgently wanted by the police.

Their name is the only formidable thing about them. By nature they are gentle and affectionate, born to triumph in the game of hide-and-seek. Their only concern is to follow a scent to its goal, to track a scent-clue from a glove, a handkerchief, a shoe, a track made in the ground.

By a power of scent unequalled in any other domesticated animal, they follow up the clue until they find the person sought. Only water, lapse of time, or the passage of too many other people over their course in advance will throw them off the scent.

They were our first sleuthhounds. It was never their desire or their business to seize the person traced; their delight is to follow, and, having found, joyously to announce their triumph by barking. For centuries they were employed to track runaway men, slaves, and fugitives from justice. But they never bit or molested their "finds." They have had their part in British history, for bloodhounds more than once tracked Wallace and Bruce, the fugitive Scottish heroes, and, following the last battle fought on our soil, they traced to a ditch the cowardly Duke of Monmouth.

17 MILES BY PARACHUTE

Already the C N has noted what can be described as the newest sport, that of yachting in the air on gliding aeroplanes; but a still newer one has just appeared on the horizon—parachute gliding.

M. Denois, head of the French School of Parachutists, sailed for 17 miles over the English Channel in a parachute invented by him, with undisclosed gadgets for opening and directing it. The inventor with his parachute was carried by plane from the Calais aerodrome out to sea, and when 15 miles north-west of Cape Gris Nez released his parachute 13,000 feet up, and sailed gently toward the coast in it. He came safely back three miles from Cape Gris Nez, and was assisted out of the parachute without difficulty by bathers.

A LIVE-WIRE SCOUT

An outstanding personality in the Boy Scout movement of New Zealand has laid down the mantle of his office and answered the last call of the Great Scoutmaster. He was Mr W. J. Holdsworth, one of the best-known citizens of Auckland.

In the Boy Scout movement he saw an organisation unfettered by colour, creed, or class, and for the last nine years of his life he devoted his whole powers to reorganisation.

Lord Bledisloe, as Chief Scout for New Zealand then, likened Mr Holdsworth to Electricity, which, he said, was "a form of physical force which necessitates a live wire resulting in a current of energy, light, and power; a current that flows along peacefully carrying all before it, a light that banishes gloom and dullness from life, and a force which accelerates motion and overcomes resistance."

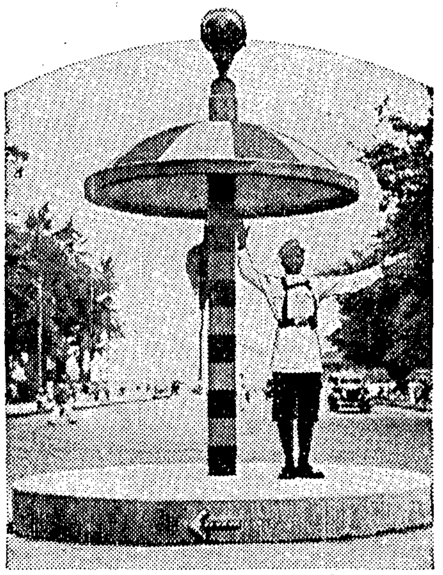
Was ever a finer tribute paid to a Scout than this, we wonder.

JUST PART OF THE LANDSCAPE

A conversation overheard in Trafalgar Square the other day:

Who is that? asked a lady, looking up at the figure of Nelson on his column.

Oh, was the reply, I don't know. It has always been there.



A traffic policeman of Bombay

GOOD CITIZENS

Rowntrees of York are not only making good chocolate, they are making good citizens.

They have launched a new educational experiment, making it a condition of employment that boys under 16 are to attend special classes in the firm's factory. The boys will receive full pay for the time occupied in the classes on condition that they attend one evening a week at classes held during their own time. There are 400 boys now going to school in working hours, and they will go on till they are 18.

The syllabus has been chosen with a view to making good citizens of these youths. Handicrafts and science are included, and physical training receives special attention.

CHILDREN'S NEWSPAPER
SEPTEMBER 25 ❀ ❀ 1937

The Man of Skill

One of the most remarkable events of our time, and one of the most serious, is the shortage of skilled labour.

Several causes have contributed to this change. The war robbed us of skilled men, and after the war it became evident that not only were fewer children born, but that many children flocked into unskilled occupations, eager to earn money as soon as possible.

The needs of munition-making in the war drew a great army of young people into mass production, and after the war this process was accelerated and applied to an ever-increasing number of things. Many of our modern products are so many machine-made parts, and in such things skill is often at a discount.

But there remains, and will always remain, a great body of work demanding the skilled labour of hands and brains. Indeed the day is passing when great exports can be made of crude products. In all lands the future will probably witness an increased call for the application of art to materials, and it is not an impossible ideal to recognise mass production as suitable to its own sphere of work while honouring skill and art in their application to the many articles which comfort and adorn our cities.

Education, we may hope, will play its part in such developments. The old apprenticeship system, with the employer as a sort of second father to the child, has gone for ever. The apprentice of today is usually a young worker, not bound by any precise agreement, but recognised to be learning his trade, and therefore paid less than the value of his output.

It must be our aim to increase the number of ambitious youngsters who are determined to become capable men with deft hands and alert brains.

The hand, what a lovely thing it is! The brain, what marvels of experience it can store and what proud achievements it can conjure into being! Many are the sorts of human intelligence and aptitude, and many also the degrees of development possible to any sort of brain.

For the nation, for the statesman, the future of skilled labour rests with the school and with the training that merges the scholar into the worker. We must do much more to foster technical training and to make it universal.

THE EDITOR'S TABLE

John Carpenter House, London

above the hidden waters of the ancient River Fleet, the cradle of the Journalism of the world

The Country Parcel

One more example of the inefficiency of our country post comes before us.

Over a distance of less than 20 miles, from just outside London to a well-known Kent village, a parcel posted early on Saturday afternoon was delivered on Tuesday morning.

❀

The Bitter Price

In the early days of motoring little notice was taken of lives lost, and when a writer ventured to predict that soon the loss would amount to 15 or 20 every day he was scoffed at.

So with aviation. The losses are mounting, but little notice is taken. A young life is wiped out and a few lines appear in print to record the fact.

In the first eight months of this year the Royal Air Force lost 97 men in 58 accidents. The number of planes lost in crashes is not published, but appears to be at least two a week.

But the lives are the chief consideration, and for nearly 100 men to perish in eight months (at the rate of 150 a year) is a grave matter. In 1934 there were 30 deaths.

If motor-cars killed at the rate of aeroplanes the loss of life in a year would be 150,000.

❀

Danger

We read in a certain paper that the roads through small Cornish villages are very dangerous for fast-moving traffic.

We hope the fast-moving traffic will leave them well alone.

❀

Beauty From the Rubbish Heap

We are delighted that our friends the Men of the Trees are doing what they can to carry out an old C N idea of planting slag-heaps and rubbish dumps. Most satisfactory work has been done in both Durham and Lancashire, for which we should all be grateful to this excellent society.

They ask the help of everyone who loves his country, whether England or another, in planting and preserving trees. They beg us to commemorate all great events, whether personal, civic, or national, by planting a tree. Would not the most appropriate way to honour November 11, Armistice Day, be to plant trees? As living symbols, they speak more directly to men's hearts than cold stone monuments.

Any reader wanting help or advice from the Men of the Trees should write to the Hon Secretary, 10 Victoria Street, London, S W 1.

❀

When?

When shall I be tired of reading? When the moon is tired of waxing and waning; when the sea is tired of ebbing and flowing; when the grass is weary of growing; when the planets are tired of going. Emerson

All in the Bible

The prophecy of the Speed Age, we were told the other day, is all in the Bible—the cars jostling in the streets and the planes roaring overhead.

We have looked up the references, and pass them on to our readers.

The chariots shall rage in the streets; they shall justle one against another in the broad ways; they shall seem like torches; they shall run like the lightnings. *Nahum 2. 4.*

They had breastplates, as it were breastplates of iron, and the sound of their wings was as the sound of many horses running to battle; and they had tails like unto scorpions.

Revelation 9. 9.

❀

Tip-Cat

An American author is said to be well known to the highest people in America. Must live at the top of a skyscraper.

▫

Barbers will talk. They cut in.

▫

Sunshades have been seen at football matches. This raises several points.

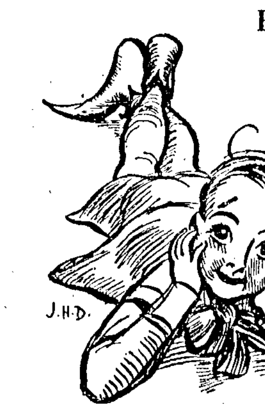
▫

A man says he has followed 36 different occupations. Hasn't he caught up with any of them?

▫

A speaker says he cannot speak highly enough of the British Navy. He should raise his voice.

Peter Puck Wants To Know



If dairymaids have butter fingers

The modern girl will go far. A miss is as good as a mile.

▫

Many people have an itch to write. And scratch with a pen.

▫

A journalist who wanted to interview the village cricket champion couldn't find him. He was out.

▫

An orchestra, says a critic, should not drown the voice of a vocalist. That all depends.

❀

THE BROADCASTER

C N Calling the World

A police constable was fined for dropping litter in Hampshire.

Alderman Graves has given 52 acres of Derbyshire beauty to the National Trust.

JUST AN IDEA

Patience is not a balm for all ills, but it is surprising how many wounds it will heal and how many wrongs it will right.

The Broken Partnership

A sad little drama is going on in a London suburb. A tradesman's horse has lost his old partner and is baffled and disconsolate.

Horse and man had been associated for nearly ten years on a wide round, comprising a great number of houses.

The horse knew all the stopping-places. Without a word he would pull up at each customer's house in turn. His master went in to deliver supplies, and, as he came out, the horse would move off the moment he heard the familiar footstep. If the man delayed beyond the usual time the horse would look round to see what detained him.

The horse has lost its old friend, whose place has been taken by a stranger. The horse seems lost. Although his new master is equally kind he misses the well-known footsteps. Instead of walking off to the next house as the man leaves the gate the animal lays back its ears, shakes its head, paws the ground, and shows every sign of perplexity. Not until the man takes his place in the driving seat does it move away, and then the old confident trot is missing; the gait is slow and uncertain, as though the horse still awaited the step and speech of the partner with whom it has worked so long.

❀

Autumn

Season of mists and mellow fruitfulness!
Close bosom-friend of the maturing sun;
Conspiring with him how to load and bless
With fruit the vines that round the thatch-eaves run;
To bend with apples the mossed cottage-trees,
And fill all fruit with ripeness to the core;
To swell the gourd, and plump the hazel shells
With a sweet kernel; to set budding more
And still more, later flowers for the bees,
Until they think warm days will never cease;
For summer has o'erbrimmed their clammy cells. John Keats

❀

Something New

By The Pilgrim

We pulled up outside the north door of Liverpool Cathedral—the great unfinished pile of masonry rising in splendour above the city. As we did so a policeman crossed the road and came towards the car.

We sighed. Is there no place in England where one may park a car for half an hour?

The policeman put a smiling face in at the window.

"Good morning, sir," he said. "I've just come across to put your mind at rest. Your car will be all right here, sir, and, what is more, though I guess this is something of a shock, you can leave it here as long as you like."

He beamed on us, and strode majestically on.

THE NATIONS CRYING OUT FOR IRON AND STEEL

The world which does not live by bread alone is hungering for iron. The search is nearly as world-wide and as eager as the quest for oil, and the need is greater, for, though other metals may be substitutes for iron in some of civilisation's needs, there is no metal for which the uses are so rapidly increasing. The dull iron ore is transformed into shining steel and gives us ships, trains, bridges, and a myriad other things helping to build up the astounding civilisation of the twentieth century, the Steel Age. It gives us, too, the submarines and shells that may destroy the civilisation it helps to build.

In the 18th century iron was first used for building bridges, and afterwards to cover countries with networks of railways; but in the 20th century the demands for it as the framework of buildings are rising to those of rail and bridge.

Iron is the Earth's foundation. In the middle of the globe is another globe of iron 4000 miles thick, which would be molten if the tremendous pressure above did not keep it solid. Above it are the Earth's heaviest rocks, in the same state of suspended liquidation throughout a crust of more than 1900 miles, and above them a thin upper crust, 50 to 60 miles deep, of sandstones, granites, and lighter rocks laid down by the action of fire and water. The inner core can never be reached. So that the Earth might seem to starve for iron in the midst of plenty if it were not that iron wells up to the surface, and is supplemented by smaller quantities of meteoric iron falling on it from fragments wandering in the solar system.

Man's Unceasing Efforts to Get Pure Iron

Even in the inner core the iron is not pure, but is mixed with nickel and other metals. Wherever it is found on the surface, or near it, other elements, manganese, phosphorus, carbon, oxygen, sulphur, silicon, are mixed with it; and because some of these, though they may be useful in their proper place, are like dirt, they are something to be got rid of, in the eyes of the iron and steel workers. The whole object of iron and steel foundry work is to get rid of them. There is no such thing in Nature as pure iron, and it is rare in manufacture, which has been trying for centuries to get it. But at Old Delhi in India there is a strange lesson for iron masters. In the inner courtyard of the mosque erected by Kutt-ud-din after he had captured Delhi, about the time of King John in England, stands an iron pillar which is at least five centuries older still. It came from afar, and the foundryman who wrought this pillar 24 feet high is unknown. But it is as nearly pure as wrought iron can be, and in the 1600 years of its existence has not rusted.

The Chief Ores and Where They Lie

Modern iron and steel producers can only wonder at it, though their aims are of another kind and their methods are calculated on a different scale. But the mention of the Delhi pillar affords an opportunity of classifying iron, as modern industry knows it. Seventy years ago there were only three classes of iron, wrought iron, steel, and cast iron. Wrought iron had practically no mixture of carbon, steel had a moderate amount, and cast iron had so much as to be very brittle. The classification is now much enlarged, but all varieties of iron and steel are derived from the impure iron ores yielded by the Earth's crust.

Ordinarily the iron outcropping near the Earth's surface is always a mixture, and it is the object of the iron and steel works to rid it of the ingredients not wanted before replacing them with others that will be useful. As found it is not described as iron, but iron ore. Haematite iron ore, so called from its reddish colour, is mined largely in some parts of Lancashire and Cumberland, and to less extent in Cornwall. Large deposits of it occur in the province of Viscaya in Spain, near Bilbao. From there it has been largely imported into England by the steel masters.

About two-thirds of British iron ore is a clayey compound with an admixture of carbon and copper. The Cleveland district of Yorkshire supplies something less than half the whole amount, and the proportion is diminishing as new beds are being opened up in response to the increasing demand for the metal and the lowering of costs in smelting it. Northamptonshire, Lincolnshire, Leicestershire, and Scotland are all contributors. Fifty years ago the annual British production reached 18 million tons. It fell from that year after year towards the 12 million ton level. It is now rising.

America is the richest storehouse of haematite ores. At Lake Superior are vast deposits, and the famous Mesabi Range is the biggest source of commercial iron ore yet worked in the world. The Lake Superior ores have only small amounts of the phosphorus of which it is the object of the steel makers to get rid. These ores are shipped to the Pennsylvania (Pittsburgh), Ohio, and Chicago foundries. Other large iron deposits less pure are situated in Alabama, near Birmingham, the capital, as it is sometimes regarded, of the American Negro. These have in them a good deal of phosphorus, but because there are good coalfields near Birmingham they can be profitably worked.

It has been remarked that Great Britain owed much of its continued prosperity in the industrial era of the 19th century to the fact that the coalfields were side by side with the iron deposits. The iron deposits of France, Belgium, and Germany are of oolitic haematite which has as much as two per cent of phosphorus, and is consequently more costly to work. But Germany, pursuing the same course as in our own less rich iron deposits at Corby in Northamptonshire, is beginning to work these fields at a profit by employing newer and better processes of treating the ore.

Sweden has magnetite iron ores which are exceptionally pure, but her lack of coal restricts her use of her riches to the manufacture of only the best classes of iron and steel. In Swedish Lapland, near the Arctic Circle, are three magnetite iron beds, which are the largest in Europe and from which ore travels to Germany and Great Britain.

Breaking and sorting ore at a South Wales Ironworks

Millions of Tons Dug Up Every Year

China has far extending iron deposits, estimated as having a reserve of 7000 million tons, in the Ta-Yah-Hsien region of the Yangtse-Kiang valley, and these supply the Osaka works of Japan. India exports iron from the Bihar and Orissa fields, or sends it to the Tata steel works. Among other sources in the world Chile has some good iron ores at Coquimbo.

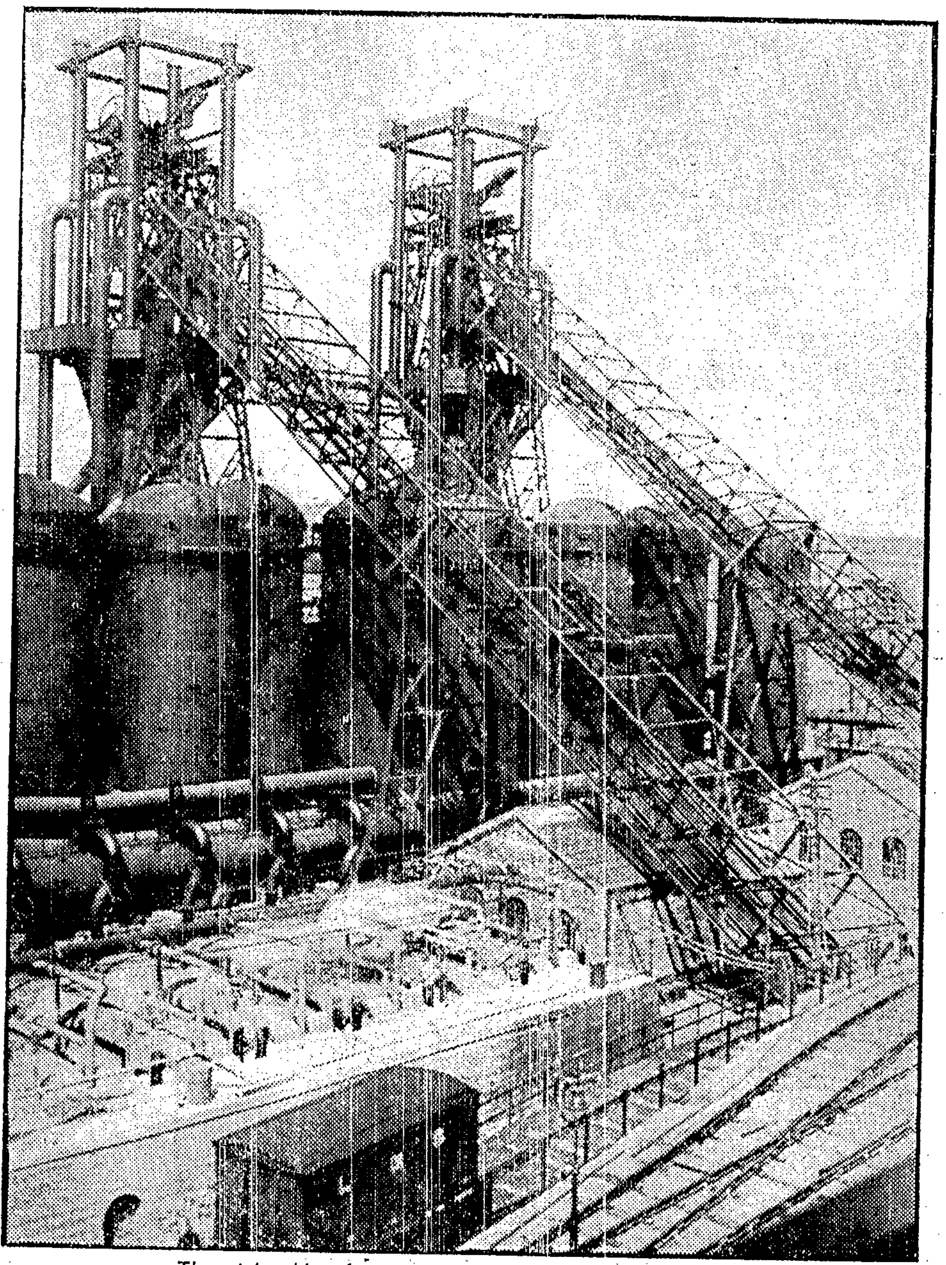
No trustworthy estimate can be offered of the millions of tons of iron dug in a year from all these sources (though 100 million tons is a modest estimate), because the amount differs with the demand for it, and the fluctuations of price which may make the working of poor grades of iron profitable. The figures are rising, and the increase is most perceptible in the output of steel, which may be regarded as the most refined form of iron, and the most aristocratic member of a family whose lower orders are cast or pig iron, grey iron, which has become in the United States an industry by itself in a very few years, foundry iron, and forge iron.

Turning Brittle Iron Into Tough Iron

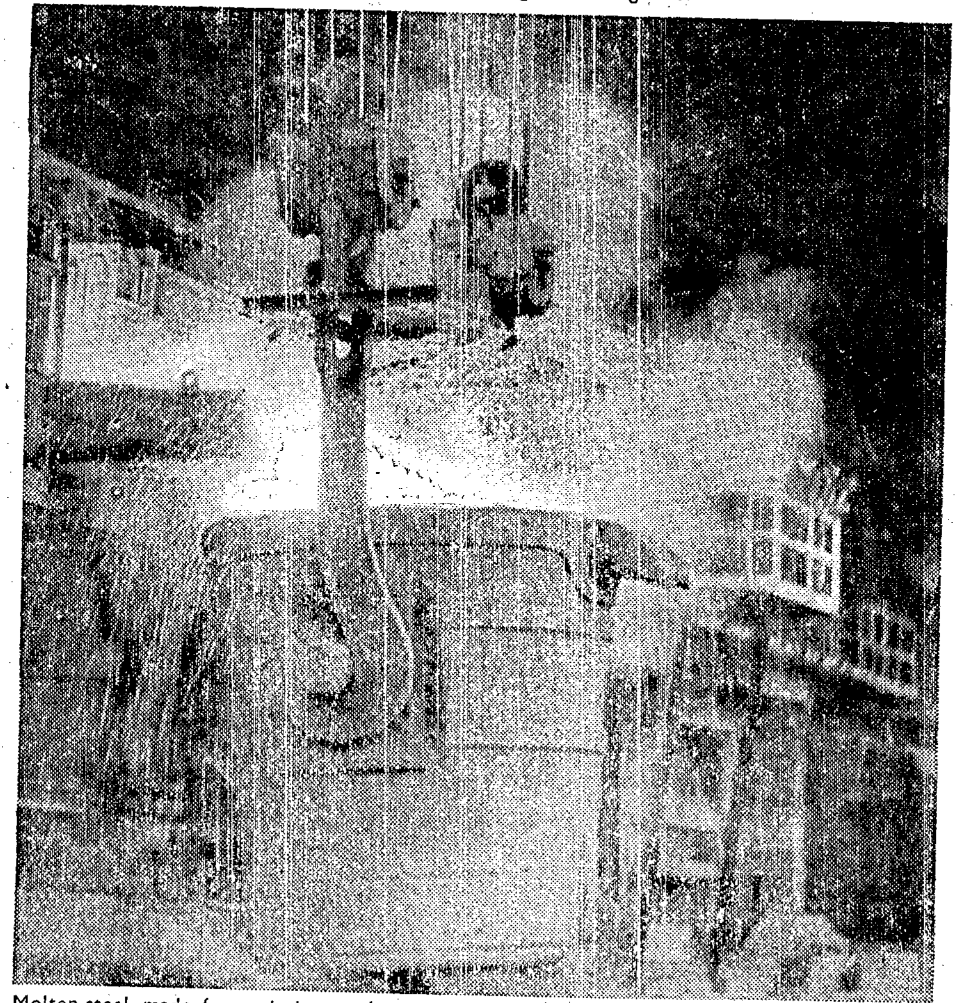
Cast or pig iron is made in furnaces, where the ore is mixed with coal or coke and limestone, and the whole is maintained at a bright red heat by a blast of air. The oxygen in the iron ore compounds is burned off by the carbon, the lime combines with the clayey part of the ore and forms a scum of slag at the top of the molten mixture, leaving metallic iron at the bottom. Pig iron made in this way contains two to five per cent of carbon and small quantities of sulphur, phosphorus, and silicon. It is hard and brittle, melts at 2786 degrees Fahrenheit, and makes stoves and saucepans or iron gates.

From it is obtained wrought iron, by remelting and further oxidation to get rid of more carbon. Wrought iron

STEEL IN THE MAKING



The mighty blast furnaces in which the iron ore is reduced to pig iron, the first stage in making steel



Molten steel, made from pig iron and scrap metal, pouring from the melting furnace into a ladle

The Great Need of the World F

can be hammered and welded and worked into fine shapes, because its brittleness has gone. The purest form of iron is the fine quality made into iron wire.

Having received its first baptism of fire, the iron is now ready for the yet fierier ordeal which is to convert it into steel, and fit it for the hardest, toughest work for which men can use it—steel rails for railways, steel girders for steel-framed buildings, and alas! steel tubes for guns and steel cases for shells and torpedoes. For these purposes its impurities must first be driven out; but, by the strange contradictions of discovery and invention, some of them will again be added in the process of manufacture to impart to the finished product qualities which are desired in the state to which the ingenuity of men seek to call it.

It is produced first of all either from wrought iron, which has practically no carbon, by adding a small amount of carbon necessary for hardening the product, or from cast iron, which has too much carbon, by removing the excess. In practice it is mostly prepared by exposing the molten mixture of pig iron to a blast of air which drives out carbon and other impurities like silicon, manganese, and sulphur.

What Happens in the Bessemer Furnace

THE ways of so doing are several, but two, the Bessemer furnace with its improvement the basic Bessemer process, and the Open Hearth or Siemens-Martin process, are the best known and most typical.

Henry Bessemer, who was born two years before the Battle of Waterloo, patented in 1856, five years after the Great Exhibition in Hyde Park, his new process for making steel from iron. It consisted in blowing cold air through the iron, and, with all the improvements the years have brought, the Bessemer furnace, which created the steel industry as we know it, remains the symbol of steel manufacture today. The year after it was patented it was tried in America, and its value was as fully recognised there as in Great Britain.

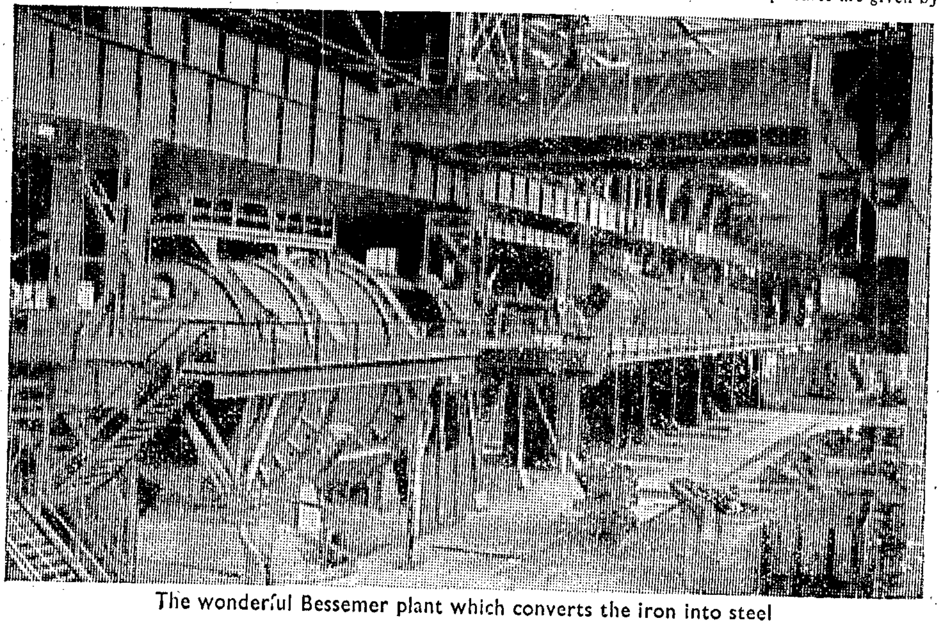
Bessemer's process, described in the simplest way, consisted in transferring molten cast iron into a converter lined with silica, in which, fixed in the bottom or at the sides near the bottom, were firebricks with holes in them. Through these holes, or tuyers, air was forced under pressure, and blown through the molten metal. By this means many of the impurities of the iron were removed. But not all; Bessemer was not a great metallurgist, though his determination triumphed over heart-breaking difficulties. He was helped by a Swede, Goransson, and a British steel-maker, Mushet; but his chief bugbear, the phosphorus in the ore, remained.

Then, about 1870, arose a humble inventor who removed it. A lecturer at the Birkbeck Institute mentioned that anyone who could solve the problem of removing the phosphorus from low-grade ores, which made the steel brittle, would make a fortune. This so fired the imagination of Sidney Gilchrist Thomas, a student who was a magistrate's clerk at a police court, that he determined to overcome a difficulty which had baffled the cleverest steel-makers of the day.

He knew nothing about the subject, but he toiled at the police court all day and experimented half the night. He used to stand, stripped to the waist, while he melted the metal and tried to find a way of getting out the phosphorus. After six hard years he found it, and, like many things, it was simple. The phosphorus remained in the Bessemer blow furnaces because the lining had too much silica, with which the phosphorus combined. Find

A river of molten metal pouring from the

Many of our steel pictures are given by cou



The wonderful Bessemer plant which converts the iron into steel

or the Metal in Its Foundations

a non-silica lining and the trick was done. Thomas's suggested linings were made of magnesian limestone, which was not acid but basic.

Nobody believed at first that a magistrate's clerk could have hit on the solution of the problem, and young Gilchrist Thomas's paper to the Iron and Steel Institute was rejected. Nevertheless it was the true solution, and the basic Bessemer process the second fundamental way of making steel today.

Thomas had so undermined his health by his labours that he died young, aged only 34, in 1885. Two years before that another young man, Robert Hadfield, was experimenting in his father's works at Sheffield. He it was who discovered, at the age of 29, the famous admixture of manganese, which made hard manganese steel, the forerunner of the steel alloys of today.

A later rival to the Bessemer furnace process was, and is, the Open Hearth furnace of Sir William Siemens, and known as the Siemens-Martin process. The plan of melting the pig iron in an open hearth instead of in a Bessemer closed converter was old, but failed because not enough heat could be raised. Sir William Siemens found a way of keeping up the heat economically and effectually by superheated gas.

At each end of the hearth are two channels through which air and gas pass on their way to the furnace. The admixture of gas and air is kept at a sufficiently high temperature to melt the iron thrown into it by the 50 or 100 ton, burning out the impurities, as in the Bessemer cauldrons, with their tuyers.

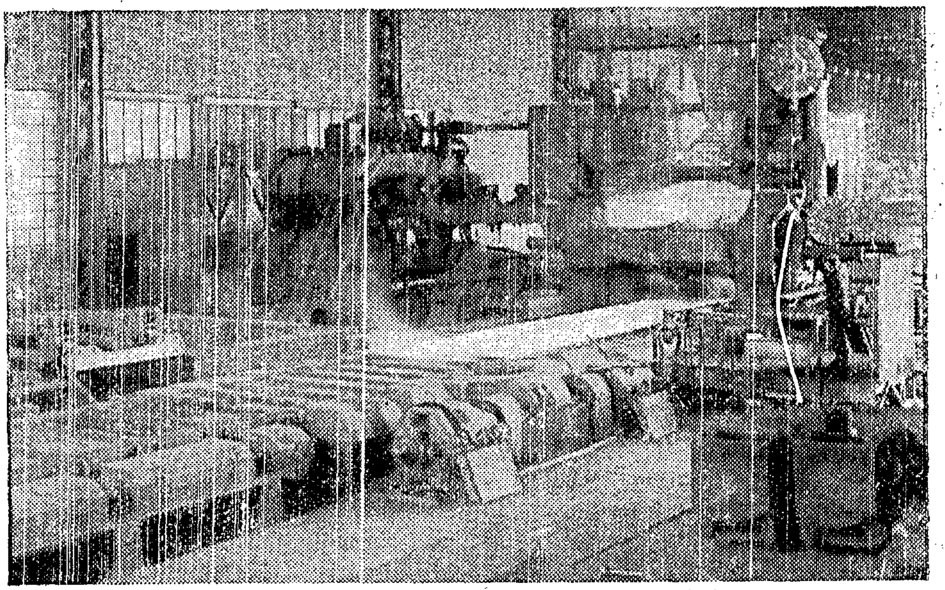
furnace into moulds to become pig iron
rtesy of the British Steelwork Association

These are the chief steel-making furnaces; though during the war, and since, electro-thermal steel furnaces have come into use. But the problem of all furnaces is the same, and is to treat iron ore of whatever grade economically. The cheaper the process, the lower the grade of ore which can be profitably treated. Thus at Corby, where the iron ore, though easily accessible, is of the clayey admixture, which requires severe economy and high ingenuity in smelting if it is to be turned profitably into steel. At Corby this low-grade carbonate ore, with 30 per cent of iron and much phosphorus, is now successfully treated. The ore is crushed and screened and the lump ore smelted in three blast furnaces taking from 300 to 420 tons. In these, the latest practice of rotating top distributors is applied, and because the ore is very dusty a three-stage washing plant cleanses it. The coke and the gas are severely economised.

Stimulating the Spirit of Enterprise

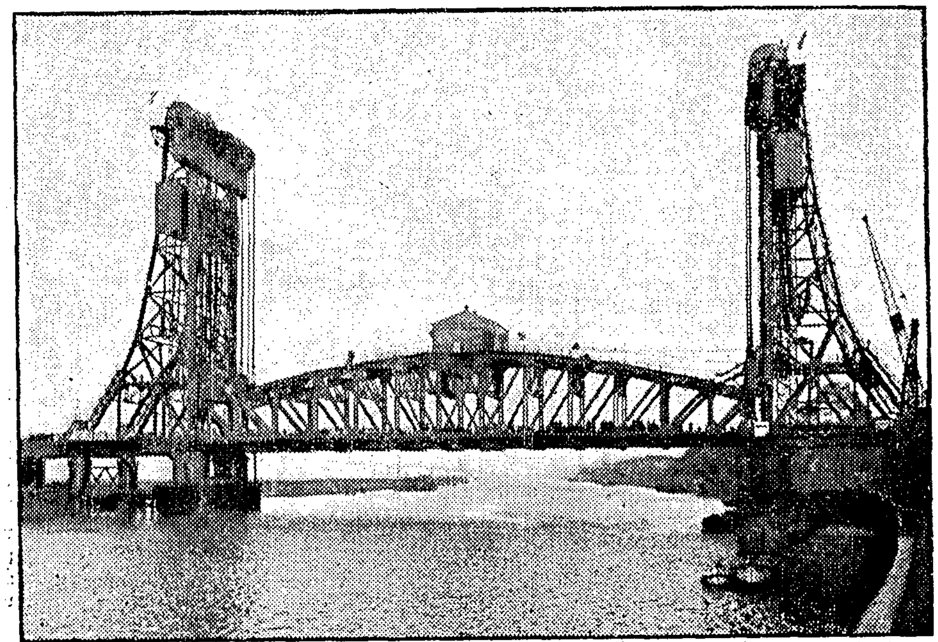
THE pig iron produced by the blast furnaces is dealt with in three basic Bessemer converters supplied with the molten iron from a 1000-ton mixer of special design. The pig iron has small percentages of silicon, manganese, phosphorus, and sulphur. The metal is run from the converters into 25-ton ladles, to be poured, or teemed, into steel ingots. The ingots go first to a blooming mill, then to a strip mill, to rolling mills, and finishing mills.

This description, though rather technical, affords a picture of the making of steel from iron ore of whatever grade. The example of Corby and of Germany has stimulated iron and steel masters to the adoption of similar inventions and processes to deal with the low-grade ores of other iron fields. In England the same spirit of enterprise is opening old fields up again, and one of the brightest rifts in the cloud over the British steel industry is that afforded by the promise that steelworks with a capital of £1,000,000 are to be opened again at Jarrow.

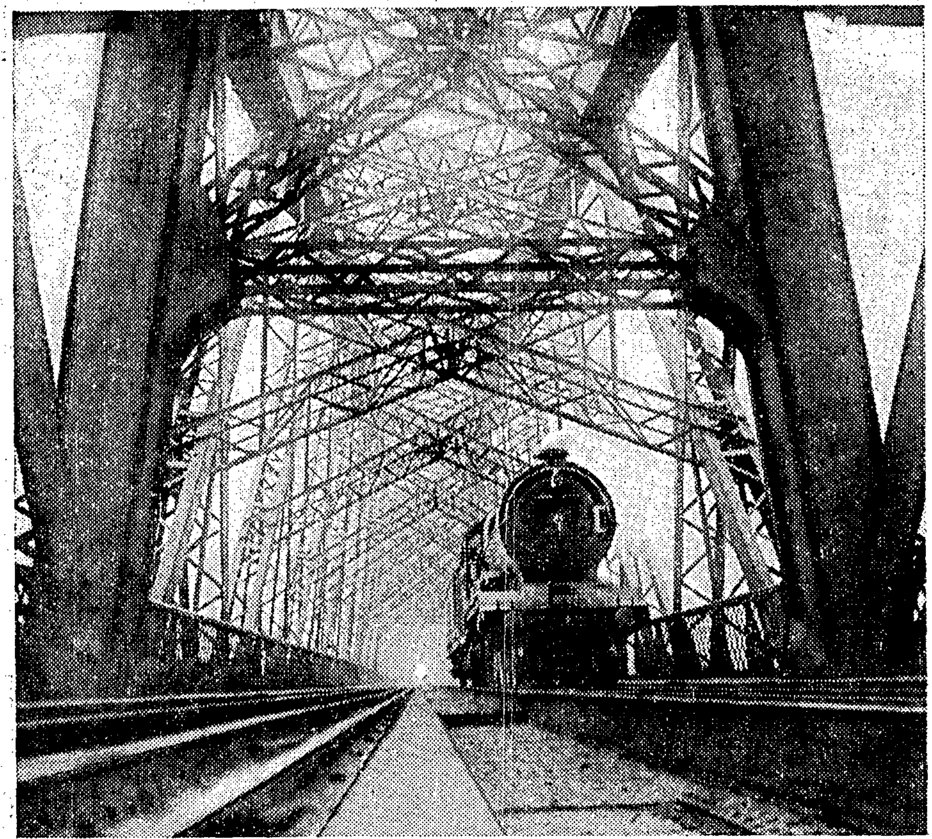


A universal plate mill rolling the soft metal into steel plates

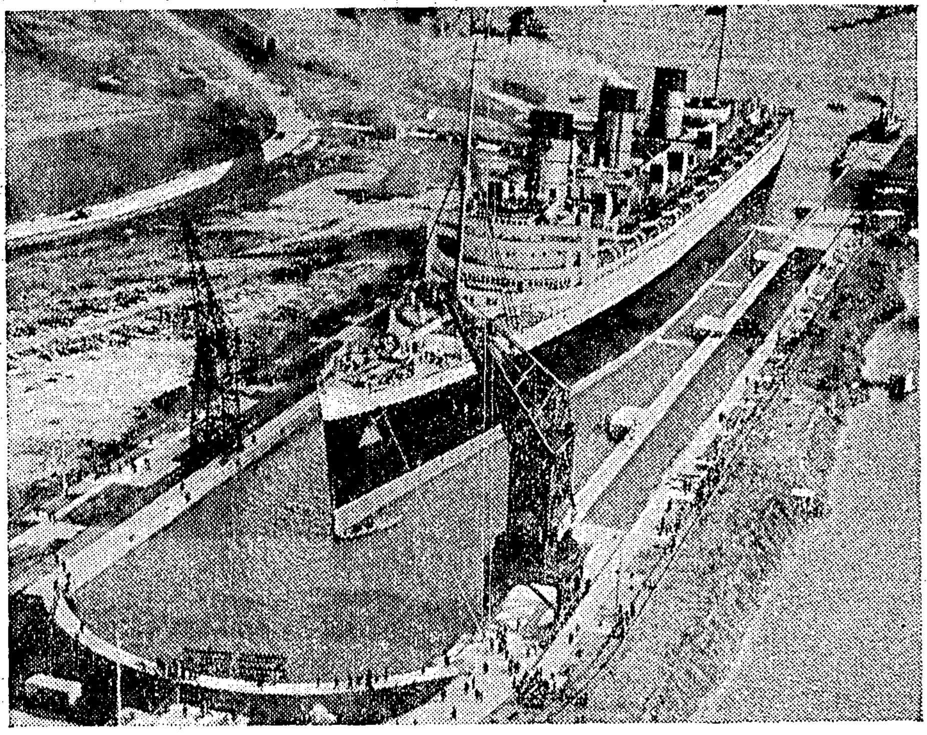
WHAT STEEL BECOMES



The vertical lift bridge across the Tees at Middlesbrough, connecting Yorkshire and Durham



The Iron Horse speeding across the Forth Bridge



The Queen Mary in a graving dock at Southampton

A VISIT TO ICELAND'S GREAT GEYSER

Our contributor who told us last week of his visit to the edge of the Arctic Ice Barrier here writes about a wonderful spectacle in Iceland—the Great Geyser.

REYKJAVIK, the capital of Iceland, has been burnt to the ground more than once, and makes no pretence of looking older than it is.

It makes the best of the present, doing a thriving trade in fish, wool, and hides, and supplying hot water to the houses, laid on from the hot springs near the town. It is also the starting-point for journeys in Iceland, including the 80-miles trip to the Great Geyser.

Tourists used to have to go on donkey-back, but the motor-car has superseded the beast of burden, and our visit to the Great Geyser was made in one. But the roads in Iceland have not kept pace with the march of the motor-car, and, though they are not so bad as some people say, a good part of the 80 miles to the Geyser was made over tracks like those which run through a farmyard.

They are more intimidating than the comparison implies, for they have been laid down over a bedrock of volcanic tufa, and the way winds up and down the sides of long extinct volcanoes in a way to cause alarm for the car if not for the passenger. It is like what driving over the craters of the moon might be, except that there is an abundance of water, and clouds lower over the dark mountain sides.

The Gloomy Landscape on the Way to the Geyser

THE Icelandic drivers do not seem to think it dangerous as they corkscrew up and down, and the rain does not damp their spirits at all, any more than the showers which arise as the car bumps through a water splash.

This, at any rate, is the regulation route to the Geyser, and anyone who takes it, as we did, will remember the lonely, gloomy landscape, with its frequent splashes of colour and glimpses of wide horizons, long after its trifling discomforts have been forgotten.

It led us to the Geyser, which was the main thing, and we came on that ancient wonder of the world with a feeling like surprise. The ground hereabouts is flat, by the side of a small hill. There is a farm and a sort of hostel where lunch is provided. Some farm animals are straying about, steam is coming up from a bubbling hot well, and somebody from the farm is cooking the potatoes for lunch in another hot pool. If running hot water is not laid on, as at Reykjavik, the people of the farm have only to step outside the door to get as much as they need.

The Great Geyser of Iceland in action—Photograph by courtesy of Royal Mail Lines

But when we arrived there was no sign of the Great Geyser. About twenty years ago or more it stopped working, but in 1935 an engineer policeman started it again. For a time we wondered if anything had gone wrong.

No. The Geyser was getting ready for us. It generally goes up once a day, sometimes twice, in the season, which is summer. In the winter it stops work and closes down till the spring, for reasons beyond control. It operates rather in the way of the kitchen boiler. Underground is a sort of cistern which hidden fires keep close to the boil, and which, when the fires have kept on long enough, does boil. Then the upper part of the underground cistern becomes filled with steam. As the water goes on boiling the pressure of this steam increases, and forces the water upwards till it comes through a vent pipe to the surface of the ground. There it fills a basin about 20 feet across, and lastly, as the pressure still increases, a stream of mingled boiling water is shot up from the middle of the basin to a height of from 60 to 160 feet.

It is an astonishing sight, but it ceased altogether for a number of years. The reason was that after the hot water had been forced up into the basin it cooled rapidly by contact with the air, and stopped the boiling below, and in doing so cut off the supply of steam to eject the contents of the basin upward like a fountain.

An Icelander who as a boy had lived on a farm near the Geyser, and had gone abroad to become an engineer, found his plaything broken when he came back as a middle-aged man, and hit on the right way to mend it.

He rightly explained the want of pressure as owing to the too rapid cooling of the surface water, and with the help of a friend set about remedying this defect in the boiler by cutting a wedge in the side of the basin. When the water wells up now it can cover less than half the area of old, and therefore cools less quickly. As a consequence, water heat and steam pressure are increased throughout the boiler system, and the Geyser goes up as it did when the Icelandic sagas were told.

But it does not seem quite so regular in its habits, and when visitors are expected the Geyser's custodian, or guide, supplies about 40 lbs of soap to be thrown down the sink to stimulate the boiler below. The basin is very like a sink with a huge hole in the middle. The soap by forming air bubbles increases the underground pressure.

On the day of our visit the boiling fountain was expected to play about one o'clock in the afternoon, as it had done on the day before. We were therefore invited into the hostel to lunch, where bread and soup were being slowly followed by salmon, when somebody appeared at the door of the big room with a shout, "The Geyser is starting." In the twinkling of an eye benches and tables were emptied, and our large party rushed out into the open. There, a hundred yards away, the Great Geyser had gone off at half cock.

Clouds of Steaming Water Gushing From the Earth

IT streamed up in a series of spasmodic gulps, the fountain boiling in clouds of steam, and descending water washing the soap, not, as intended, down the vent hole, but over the outward slopes of the basin. The spectacle was robbed of some of its magnificence, but the old Geyser, as if to make up for any disappointment, continued to play for nearly half an hour.

It was hard to tear ourselves away from it, from a sight we had read about since we were children, and were unlikely ever to see again; but we had to get back to the ship, and the return journey is a memory even more vivid than the Geyser.

The clouds had come down on the mountain tops by the side of our way, rain was beginning to fall. The motor-car, rocking on the broken road as it climbed up or braked down the hairpin bends, wormed its way through mist by the side of dark chasms, where the path was shown by ghostly pillars of black volcanic stone. No wonder Iceland is a land of legends.

The journey back to Reykjavik took three hours. When we reached it there was a fire at one end of the town, and a prehistoric fire-engine was attempting to put it out. Later in the evening, about half-past nine, a football match with our ship's crew was begun. It was then quite light but raining hard. "Surely," we said, "the match will not be played in this weather." "In this weather?" replied our steward. "Why, in Reykjavik they call this a fine day."

A Plant's Wonderful Feat

A SUBJECT of abiding interest to botanists is the way in which climbing plants make their way about, and one of our readers offers a contribution to the subject.

There is not only the mystery of the means by which, rising from the ground, they pull themselves by repeated grips, twists, and turns so that they may get the maximum of light and air; there is the greater marvel of what seems in them a sense of direction, a sense guiding them from one object to another so that they may extend their range of support and aerial territory.

In the garden of which we are now told is a convolvulus which has scaled a trellis eight feet high. At the summit lesser strands have plaited themselves together, but a stouter branch, which seems to be the leader, has made an astonishing journey to new foothold.

Having come up one side of the trellis, it has descended the other. During the early stages of the growth this was not unusual—mere development and gravity would produce that result; but when a depth of 22 inches was reached there suddenly seemed something purposeful in the manoeuvre.

From growing for 22 inches parallel with the woodwork, the branch began to reach outwards. The stem inclined sharply forward, and, continuing at its new angle for another 17 inches, it reached the topmost bloom of a dahlia.

There it has anchored itself, grappling its new support as firmly as if it were an oak. The leading bud of the convolvulus has had to span a gulf of air nearly a foot and a half wide, and to bend itself at an angle away from the length of stem which hangs straight down in front of the trellis. It has made a bridge for itself, but its own substance is the bridge.

With perfect freedom of movement it has reached out toward the dahlia and caught it, although there was nothing to prevent it from turning right or left, where it would have found nothing but air. The feat is so astonishing that it seems to support the theory of those botanists who hold that these bewildering plants have a dim sense of direction and the power of following their will to a distant support.

Flying Men Look to the Dreamer

MAKERS of aeroplanes with magnificent records, challenged to better their best, say that they can do so if encouraged and helped by the Government.

But the Director of Scientific Research to the Air Ministry, Dr D. R. Pye, in a speech to a gathering of members of the Institute of Metals, makes us wonder, while not doubting the ability of our manufacturers to go on improving, whether we shall be able in our present state of knowledge to put into practice the ambitions of the men who fly and of those who build machines for them.

Today, as ever, it is the custom to sneer at the men who work, not in factories and engineering shops, but in quiet remote laboratories. What does the average man who drives a car or an aeroplane know of the work of one who deals only in abstractions, in working out theoretically the properties of matter as affected by energy or force? Such men are regarded as hopelessly unpractical dreamers. Yet it is they, and not the manufacturer, who will give us higher speeds, if we are to have them. Perhaps we hardly realise it, but within the last six years the power output of aeroplanes has doubled, partly as the result of improved fuel, but still more from improvements in metal.

The great problem in raising aeroplane speed, Dr Pye points out, is friction, the friction between the surfaces of the piston and the cylinder. So intense is the heat of the surfaces of these two factors at the speeds now required that it is difficult to prevent their becoming fused together. The surface of the cylinder and piston is crystalline in character, and Dr Pye thinks it may be possible to change the arrangement of the atoms composing the metal, to make it amorphous—that is, without crystals or regular shape. That, he thinks, may go toward solving this paramount problem of dangerous friction.

Joseph dreamed his dream, was scorned, and cast into the pit, but it was he who saved Egypt from famine. The scientific Joseph dreams his dreams, and perhaps he may give manufacturers a metal for the working surfaces of their machines which will revolutionise present achievements.

ETERNAL DAY AND ETERNAL NIGHT

Look For Mercury in the Morning Sky

By the C N Astronomer

Mercury's little world may now be seen in the morning sky, the best time for viewing him being about 6 o'clock, before the rising dawn hides him.

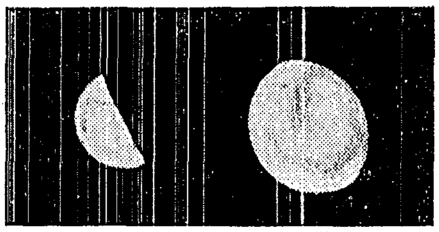
The presence of Venus at a higher altitude and about twenty times the Moon's apparent width away to the right *will make the finding of Mercury quite* easy. Glasses should be used, for, although he shines as a bright first-magnitude star with a golden hue, the twilight and haze near the eastern horizon dim his radiance considerably.

Mercury will remain fairly well placed for observation for two or three weeks, his apparent distance from Venus increasing as he travels eastward. He is now about 90 million miles away and rapidly receding from us, speeding at about 35 miles a second as he is near *perihelion,* or his nearest point to the Sun—a distance of 28,120,000 miles. In six weeks' time, however, Mercury's speed will have diminished to about 24 miles a second, when he will be in *aphelion,* or his farthest distance (43,000,000 miles) from the Sun.

If Earth Were Mercury

A singular feature of Mercury is that he *always turns the same face* toward the Sun, just as the Moon always does to the Earth, a circumstance that would have amazing consequences for us if our world did the same. Imagine nearly one half of the Earth shrouded for ever in night relieved only by periodical moonlight, the constellations above us continuously, and only moving the almost imperceptible fraction of four minutes of arc toward the west every 24 hours, and taking six months to travel across our sky instead of some 12 hours as at present. A frigid gloom and utter desolation might be expected from the absence of sunlight, though this might be mitigated occasionally by warm winds which would sweep over parts of it from the regions of everlasting sunlight and heat, to take the place of the constant inrush of cold air into the hot, sunny hemisphere.

When we consider the hemisphere of *everlasting daylight* with the Sun for ever almost in the same place, or only oscillating imperceptibly owing to libration and lunar attraction, we can imagine all manner of strange conditions. Our day of 24 hours would be gone, time would have to be measured from the Moon or some artificial standard, the seasons would vanish, and with them all the delightful change of vegetation that we are used to. The sunny side of the street would always be the sunny side, and vice-versa, save for the relief that most welcome clouds might give. These *with cooling breezes from the regions of* everlasting night would doubtless temper large areas. In any case life would, in the course of ages, adapt itself to such an environment.



Present phase and apparent relative sizes of Mercury (left) and Venus, as seen telescopically

There would, however, be a delightful belt from one hundred to two hundred miles wide between the hemispheres of night and day, where a twilight zone would exist and the Sun be either partially seen, as we observe in rising and setting, or would alternately rise a little way and then set periodically, in

25 YEARS AGO

Photographs By Telephone

HOW AN ELECTRIC CURRENT PRINTS A PHOTOGRAPH

From the C N of September 1912

A French paper is using a telephone wire for sending photographs from Monte Carlo to Paris, 550 miles, in a few minutes.

An ordinary photograph is printed on a copper plate, which is then fixed round the outside of a short tube. The tube is put in a machine which turns it round, and as the photograph turns a small metal point touches it. It is this point, like the point of a pin, which does the work. The point, which is charged with an electrical current, travels all over the photograph. When it passes a white spot it sends a strong electric current to Paris; when it passes a fainter spot it sends a weak current; when it comes to a black spot it sends no current at all.

Thus all the whites and blacks and fainter tones of the photograph are transformed into various impulses and breaks of electric power, which travel along the wire. It is now necessary to transform these currents into the black-and-white picture that they represent, and for this purpose a photographic film is wrapped round a tube and placed in a dark box. Outside the box is an electric lamp, sending out a small but powerful beam of light. This beam of light strikes against a tiny shutter in the dark box, and the shutter opens and closes according to the impulses sent along the telephone wire.

So when there is a break in the current the shutter does not open, and a black dot remains on the revolving photographic film. When the shutter partly opens a little light gets through and prints a faint spot on the film. When the shutter opens completely a white spot is made.

It will thus be seen that all the variations in the electric current, produced by the metal point as it passes over the blacks and whites of the photograph, act on the beam of light by means of the shutter, and so print the photograph on the revolving film in the dark box.

Have You Any Wool?

The black sheep of the nursery rhyme had only three bags full of wool, but New Zealand, which has more than 30 million sheep to shear of their fleeces *every summer, has wool for all the world.*

About three-quarters of a million bales were sold during the season just concluded. Of course, the seasons are reversed in New Zealand, and the shearing is done in the months just before and just after Christmas.

The sheep farmers have had a good year, receiving £15,344,231 for their wool—£5,000,000 more than for the previous season. All the world wanted wool, and so prices have mounted higher and higher.

Continued from the previous column

consequence of the librations referred to. These regions of soft light and temperate conditions where it would always be evening or dawn, and from which excursions could be made at any time into brilliant day or starry night, would doubtless be those most welcome.

We might therefore regard all this as possible on Mercury, notwithstanding his greater proximity to the Sun, with his sunlit side at a temperature of 350 degrees Centigrade. Unfortunately, all the evidence indicates that Mercury has no appreciable atmosphere and that, as on our Moon, neither clouds nor water exist. So apparently all Mercury's 35,000,000 square miles of surface—an area equal to the entire continents of Europe, Asia, Africa, and Australia—is just a barren, useless waste. G. F. M.

IS MR WELLS LIVING IN THE PAST?

When Grannie Went To School

Many people have been considering what Mr H. G. Wells (now becoming one of our Ancient Sages) has been telling the British Association—that the education of our children is sadly out of date.

But we wonder whether it is not Mr Wells who is behind the times when he talks of children as being taught geography by the names of capes and rivers, and history by dates of kings and tales of battles. That may have been what happened when he was at school, a long time ago, but it is not the way now.

Mr Wells used to write about the future. He now seems to be living in the past.

It is thirty years at least since teaching in the elementary schools was of the dry, soulless kind which Mr Wells caricatures, as anyone who will take the trouble to read the programmes of teaching laid down by the Board of Education may learn. Should anyone have further doubts they would be cleared away by visiting an elementary school, to see and hear the intelligent and imaginative way in which teachers try to inform the Young Idea.

The Broader Outlook

Mr Wells would have boys and girls taught the history of the world, its ancient civilisations, its strange peoples, the growth and progress of its work and learning, instead of such trifles as the story of England, or of Palestine. We are not sure that any boy or girl is really hampered in acquiring the broader outlook by kindling their imagination with the recollection of Agincourt, fought on Crispin's Day, or of the romantic story of the Spanish Armada; nor do we think Palestine an insignificant place if the Bible was written there, or Nazareth a small town if Christ came out of it.

But all the other knowledge which Mr Wells rates above these trifling things was at the service of any child with a mind for learning them more than a quarter of a century ago. They are all in the Children's Encyclopedia, whose popularity with those for whom it was written is proved by the fact that after 25 years it is the most widely circulated encyclopedia in the world. The mother of the C N was doing all Mr Wells suggests long before Mr Wells suggested it.

Our Well-Informed Boys

The story of the world, the tale of its discoveries and inventions, the old countries and the newly-found ones, the masterpieces of literature and art, the thoughts of the great, all are in the C E; and we believe it is one of the silliest mistakes anyone can make to suppose that schoolchildren are unaware of them, are not taught them, and do not learn them.

The proof of the pudding is in the eating. We think the intelligent boy or girl of today has learned from his school, and from the unofficial schooling of the kinema, the wireless, and the mechanical inventions surrounding him, more of the important facts of the world than the children of Mr Wells's generation.

Religious Films

The Religious Film Society and the Kinema Christian Council are working together to establish a film library and studio at Upper Norwood.

This will be the first religious film studio in the world, and leaders of religious thought feel that with a studio of their own it should be possible to produce films that will serve the purpose of the Church. The studio will be officially opened by Mrs Arthur Rank, and the new Bishop of Lichfield and Dr Scott Lidgett will take part in the dedicatory service.

'Ovaltine' makes Milk far more nourishing and digestible

'OVALTINE,' added to milk, is the regular daily beverage of countless thousands of people. They know that 'Ovaltine' has special properties which transform milk into a delicious beverage, far more nourishing and digestible than milk alone.

Scientifically prepared from the finest of Nature's protective and restorative foods, 'Ovaltine' contains every nutritive element needed to build up radiant health and vitality.

The Family Beverage For Health

Every member of the family will benefit by making 'Ovaltine' his or her daily beverage. It has been proved that children who have 'Ovaltine' regularly at home—and during the morning break at school—are more efficient and less liable to fatigue.

But, it must be 'Ovaltine'—there is definitely nothing "just as good."

Prices in Gt. Britain and N. Ireland, 1/1, 1/10 *and* 3/3 *per tin.*

P.148a

Every Boy and Girl should join the League of Ovaltineys

THOUSANDS have joined and are having great fun with the secret highsigns, signals and code. Write for official rule-book and details to the Chief Ovaltiney, Dept. 31, 184, Queen's Gate, London, S.W.7.

SOMETHING LIKE LEATHER

Using the Fishes For Shoes and Gloves

There is nothing like leather, says the man who works and sells it; but German scientists now say that there is something very much like leather, and that is fish-skin.

They have learned to tan this covering, and from it are manufacturing boots, gloves, handbags, and other articles.

Provided it has substance enough and is not too oily, fish-skin should make quite good leather. Practically all skins contain gelatinous matter, which can be fixed in to toughen it (when it is kept cold) and submitted to the action of tannic acid or other tanning agents. Among the few hides that will not tan well are those of the whale and the pig, both of which are so charged with oil that they will not take tannic acid. So the whaleskin is useless, while the pigskin, impossible for boots and shoes, is roughly dressed to make the most enduring of saddles for riding.

Men are constantly on the alert for new sources of supply for the tanner. They use the hides of horses, cattle, sheep, goats, deer, rhinoceros, hippopotamus, and the skins of snakes, lizards, dogs, rats, mice, cats, and many other animals. The bulk of these are tanned, but some are prepared for use in other ways.

Not all skins become leather. Some, from the sheep and goat, are split to make parchment, on which all our old deeds and other writings were engrossed. Of these there is one at South Kensington as perfect today as when it was inscribed 700 years ago.

The Owl Switched On

An owl recently plunged four villages near Oswestry into darkness. Perching on an open-air switch, it was not only electrocuted but caused the wire to fuse.

A Million Pounds to Move a Station

WITHOUT stopping a single train below ground, and without checking the traffic on London's most heavily laden road above it, the biggest engineering feat ever undertaken by the London Transport Board is going steadily forward.

For over a year a small army of men has been at work preparing for the removal of Aldgate East Station to 100 yards farther down Whitechapel High Street, to provide a station twice as wide and long and to obviate the delays caused by a difficult cross-over.

The chief difficulty is not the alteration to the railway lines, though these will lie many feet lower, the tracks being at present supported on trestles where the old line runs above the new, but in the complicated maze of pipes and wires which lie at different levels under Whitechapel High Street. The area is one of the most densely populated in London; along the street traffic makes its way night and day to London's docks.

Under the street are sewers so big that one can walk upright along them, gas pipes four feet wide, waterpipes and electric cables for every purpose. All must be transferred without a hold-up in any of their services. Altogether 13 separate authorities are responsible.

The only way to cope with such a complex problem was to construct two exact models, one of the present station and the pipes as they were before the work began, and one of the new station and the new positions of the pipes, and so on, when the scheme is completed.

The work will cost over £1,000,000, but when it is finished more trains, fewer delays, and a much simpler signalling system will make Aldgate East one of the most efficient stations on the Underground Railway.

Biggest Landowner in These Islands

POSSESSING nearly a million acres, the Forestry Commission is already the biggest landowner in these islands, and it is steadily adding to its estates year by year.

Better still, its income is beginning to increase at a progressive rate, proving that the Act of 1919 which established the Commission was one of the most far-sighted that have been placed on our Statute Book.

The goods are now being delivered, the plantings of 1920 yielding pit-props and poles as forerunners of valuable timber soon to be available. The season for planting is approaching, and the Commissioners are hoping to plant 25,000 acres, including 3500 in the Distressed Areas as a contribution to the human problem there. The Commission has already opened schools for young foresters from these areas in the Forest of Dean and at Benmore in Scotland.

Permanent forest workers are allowed to rent specially built cottages on holdings of from two to ten acres, which they work on during their spare time. Over 5000 people now live on these holdings, and it is estimated that their livestock alone is worth £46,000.

More workers are likely to be needed for afforestation in the near future, for the demand is increasing and prices rising in spite of greater imports. The Commissioners, indeed, have been pointing out the favourable conditions to the private owners of three million acres of woodland in this country, and urging them to improve the home supplies of standing timber.

A CHILDREN'S POET

James Whitcomb Riley's House

James Whitcomb Riley while he lived was the children's poet, and we think there are still children who remember him, though it was more than 60 years ago that his last poem was written.

They remember him because of his gay verses on The Funny Little Fellow, who had a heart as mellow as an apple over-ripe and the brightest little twinkle when a funny thing occurred, and who was rather like Whitcomb Riley himself; or because of his song of the Days Gone By.

O the days gone by! O the days gone by!
The apples in the orchard and the pathway through the rye;
When the bloom was on the clover, and the blue was in the sky,
And my happy heart brimmed over, in the days gone by.

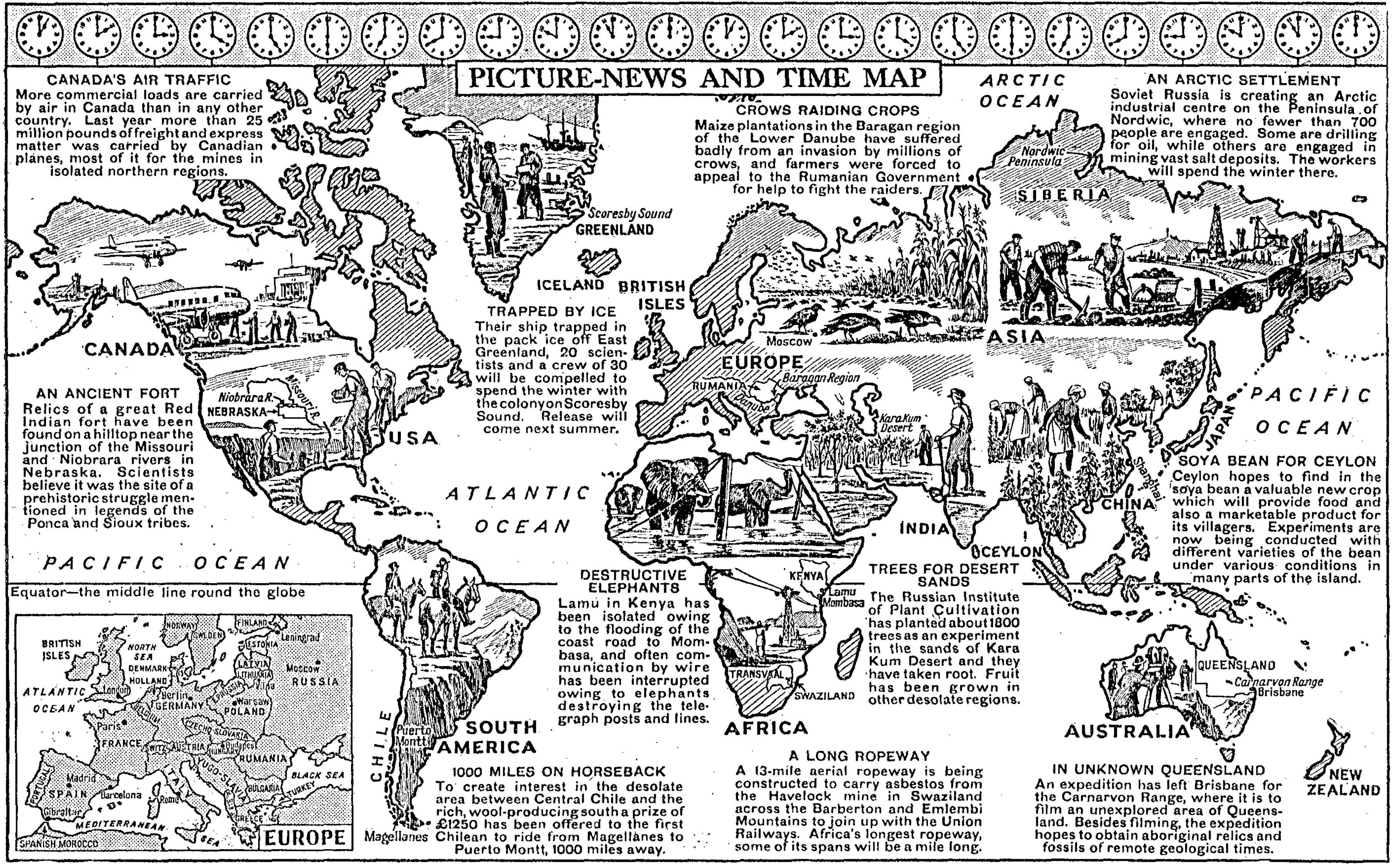
Happy days! Whitcomb Riley always remembered them, and that is why his own people, who live about Greenfield in Indiana, U S A, where he was born, are going to make a memorial of the house where he lived.

Already there is a small statue of him in the town square, for which thousands of American schoolchildren subscribed their pennies, or their cents; but the green-shuttered, white, wooden frame house, and an apple tree in the garden, will be something that will be a better reminder of him.

He was called the Hoosier poet, because Hoosier is a nickname given to the country people of Indiana, though nobody can certainly tell why.

16 Miles For 2¼d

Half a century ago Mr W. Woodcock of Doncaster was a telegraph boy. He has been recalling the time when boys were paid three farthings for delivering a telegram, and he remembers walking 16 miles to gather nine farthings.



PICTURE-NEWS AND TIME MAP

CANADA'S AIR TRAFFIC
More commercial loads are carried by air in Canada than in any other country. Last year more than 25 million pounds of freight and express matter was carried by Canadian planes, most of it for the mines in isolated northern regions.

AN ANCIENT FORT
Relics of a great Red Indian fort have been found on a hilltop near the junction of the Missouri and Niobrara rivers in Nebraska. Scientists believe it was the site of a prehistoric struggle mentioned in legends of the Ponca and Sioux tribes.

TRAPPED BY ICE
Their ship trapped in the pack ice off East Greenland, 20 scientists and a crew of 30 will be compelled to spend the winter with the colony on Scoresby Sound. Release will come next summer.

CROWS RAIDING CROPS
Maize plantations in the Baragan region of the Lower Danube have suffered badly from an invasion by millions of crows, and farmers were forced to appeal to the Rumanian Government for help to fight the raiders.

AN ARCTIC SETTLEMENT
Soviet Russia is creating an Arctic industrial centre on the Peninsula of Nordwic, where no fewer than 700 people are engaged. Some are drilling for oil, while others are engaged in mining vast salt deposits. The workers will spend the winter there.

SOYA BEAN FOR CEYLON
Ceylon hopes to find in the soya bean a valuable new crop which will provide food and also a marketable product for its villagers. Experiments are now being conducted with different varieties of the bean under various conditions in many parts of the island.

DESTRUCTIVE ELEPHANTS
Lamu in Kenya has been isolated owing to the flooding of the coast road to Mombasa, and often communication by wire has been interrupted owing to elephants destroying the telegraph posts and lines.

TREES FOR DESERT SANDS
The Russian Institute of Plant Cultivation has planted about 1800 trees as an experiment in the sands of Kara Kum Desert and they have taken root. Fruit has been grown in other desolate regions.

1000 MILES ON HORSEBACK
To create interest in the desolate area between Central Chile and the rich, wool-producing south a prize of £1250 has been offered to the first Chilean to ride from Magellanes to Puerto Montt, 1000 miles away.

A LONG ROPEWAY
A 13-mile aerial ropeway is being constructed to carry asbestos from the Havelock mine in Swaziland across the Barberton and Emlembi Mountains to join up with the Union Railways. Africa's longest ropeway, some of its spans will be a mile long.

IN UNKNOWN QUEENSLAND
An expedition has left Brisbane for the Carnarvon Range, where it is to film an unexplored area of Queensland. Besides filming, the expedition hopes to obtain aboriginal relics and fossils of remote geological times.

Equator—the middle line round the globe

MIRRORS

The word mirror is said to come from a Latin word meaning to admire, and it is certain that for thousands of years mirrors have been used by people anxious to look their best.

Mirrors were long made of polished metal; the Egyptians, Greeks, and Romans used thin disks of bronze which were slightly convex and polished at one side; the back was often richly chased or engraved. Pliny tells us there was a mirror factory at Sidon; and though mirrors were unknown in Homer's day there were silver mirrors in Pompey's time. Ancient palaces had hand mirrors and also wall mirrors, some moving up and down like a sash window.

No old Greek mirrors were found before one came to light at Corinth in 1867, but it is known that they were commonly used. Many had beautiful handles like little statues, and some of the loveliest were made about 400 years before Christ.

The Ancient Briton's Chariot

Carrying little mirrors in handbags is no new fashion, for the ladies of the Middle Ages carried mirrors in their girdles, and as far back as 625 Pope Boniface the Fourth sent Queen Ethelburga of Northumbria a small hand mirror. Even the motorist's mirror is believed to have had its counterpart at least 2000 years ago. Excavating a chariot burial in Yorkshire some years ago, a small piece of metal was found on the front of a chariot. Believed to have been highly polished at one side, it is thought that the Ancient Briton who perhaps drove furiously against the Romans may have used the metal as a mirror to reflect what was behind him.

Mirror superstitions have not yet died out in Japan; and all who know the story of King Arthur's knights will remember that Merlin had a magic mirror which he gave to King Ryence. The Squire among Chaucer's Pilgrims told the story of Cambuscan's mirror, which warned the owner of the approach of misfortune. Oliver Goldsmith imagined a mirror which showed not only the face but also the kind of mind behind it; and Sir John Davies, who lived in Queen Elizabeth's day, describes what he calls Vulcan's mirror, which showed past, present, and future.

The Lady of Shalott

We read of a mirror in Tennyson's poem The Lady of Shalott. As she worked at her loom all she ever saw was in the mirror before her. She was told she must never look down on Camelot. She saw only the shadows of the world till Sir Lancelot came riding by, flashing suddenly into the mirror. Then:

She left the web, she left the loom,
She made three paces through the room,
She saw the water-lily bloom,
She saw the helmet and the plume,
She looked down to Camelot.
Out flew the web and floated wide;
The mirror cracked from side to side;
'The curse is come upon me,' cried
The Lady of Shalott.

One of the most charming of all stories for children is Lewis Carroll's Through the Looking Glass; and one of the most famous chapters in the New Testament has the words: For now we see through a glass, darkly, but then face to face.

How to Walk

Left on the Footpath
Right on the Road

WEALTH OF THE FAR NORTH

Russian Success

The Russians have succeeded in placing the Arctic "on the map."

A great creative work has been accomplished in the Far North, which has become an important industrial region. For one thing, it is a splendid source of fine timber. The quantity of wood now derived from this region is 40 times as great as in 1931. Paper-cellulose factories have been built which will raise the Northern area's share of the total Soviet paper output to 15 per cent, and that of cellulose 20 per cent.

A big shipyard is being erected on the shore of the White Sea, and a huge timber machinery plant which a few years ago was a small handicraft shop has been put into operation in Vologda, where a large textile combine is also being built.

Many machine and tractor stations have been organised and thousands of tractors are being used this year.

SCHOOL BROADCASTS

Next week there are to be two broadcasts on China and Japan. In the first, on Tuesday, a Chinese and a Japanese will each in turn state the case for his country. Friday's feature programme on Japan may be in dramatic form.

England and Wales—National

MONDAY, 2.5 Planning and Making the Garden: by C. F. Lawrance. 2.30 Senior Music (the major scale—tonic, dominant, and leading note): by Thomas Armstrong.

TUESDAY, 11.25 China and Japan. 2.5 How Seeds Travel: by C. C. Gaddum. 2.30 Senior English—Shakespeare: by Stephen Potter. 3.0 Concert lesson (Binary form; violin): by Thomas Armstrong.

WEDNESDAY, 2.5 Akhenaten and Tutankhamen: by Hugh Ross Williamson. 2.30 The Food of Plants: by H. Munro Fox. 3.0 Studio concert: arranged by Herbert Wiseman.

THURSDAY, 11.25 Digging up the Oldest Cities in the World: by Ernest Mackay. 2.5 Our Village—the School. 2.30 Roads: by Rhoda Power.

FRIDAY, 2.5 In the Rain Forest (British Guiana): *by Clifford Collinson and Paul* Richards. 2.30 Japan. 2.55 Marjorie Fleming: by Jean Sutcliffe. 3.15 Talk on next week's Broadcast Music: by Scott Goddard. 3.35 Talk for Sixth Forms—Foreign Affairs: by Sir Frederick Whyte.

Scottish Regional

MONDAY, 2.30 Speech Training—Rhythm: by Anne H. McAllister.

TUESDAY, 2.5 The Forests of Scotland—The Life of a Tree: by H. M. Steven. 2.30 As National.

WEDNESDAY, 2.30 Biology—How Living Things are Built: by R. C. Garry. 3.0 As National.

THURSDAY, 2.5 Time and Tune—How much do you know?: by Herbert Wiseman. 2.40 Autumn Migrants: by G. W. MacAllister. 3.5 Scottish History—The Scot Abroad: by R. L. Mackie.

FRIDAY, 2.5 Junior Geography—From Britain to Brittany: by H. Fairhurst. 2.55 As National.

Competition Result

In C N Competition Number 34 the neatest correct solutions were sent in by Dulcie J. Ellershaw, Drumquin, Station Road, Maghull, Liverpool; and Margaret Taylor, 23 Marne Crescent, Rochdale. A prize of ten shillings has been awarded to each of these readers.

The twenty prizes of fountain pens have been awarded to the following:

F. Bignold, South Darenth, Kent; J. W. P. Bree, Ledaig, by Connel, Argyll; Jean Brindley, Stoke-*on-Trent; Joyce Cornish, Marple, Cheshire;* Ernest Dodding, Skipton; Peter Durdin, Brentford; Barbara Greasley, Lowestoft; Peter Haigh, Boston; Donald C. Higham, Wigan; Cecily Hynard, Dymchurch; G. N. I. Ibbott, Bedford; Douglas Leeke, Porth, Glam.; Edith Owen, Carlisle; Jean Passey, Northwich; A. Pamela Rhodes, Skipton; Joyce Ritson, Carlisle; Betty Shelah, London, S W 9; Kenneth Stafford, Wellingborough; Alan Streater, Enfield; Edna Turner, Bexleyheath.

CADBURYS DAIRY MILK CHOCOLATE
CADBURYS DAIRY MILK CHOCOLATE 2D
2oz NET
CADBURY'S 2oz MILK

HOW COULD YOU—
RIDE A BICYCLE ALL THE WAY TO SCHOOL CARRYING A GLASS AND A HALF OF MILK?

HERE'S THE ANSWER

That's easy. Everybody knows that a glass and a half of pure full-cream milk goes into every ½ lb. block of Cadburys Milk Chocolate. So all you have to do is to slip the block into your pocket and go right ahead. Simple!

Nobody sensible walks about with a glass and a half of milk in their pockets—but a whole army of the wisest people you ever saw carry Cadburys Milk Chocolate for their between-meal snacks. All that milk makes sure there's real energy there for you, as well as making this chocolate meltingly delicious.

The doctors say 'Eat More Often'—it makes you stronger—keeps you on your toes. Cadburys is an ideal handy snack for doing exactly that. Make sure you have some always with you.

CADBURYS
MILK CHOCOLATE
ALSO 2oz 2d

Complete in Two Parts

CLOUD BURST

By Christopher Beck

CHAPTER 3

P C Hannaford

Poor Hugh was at his wits' ends. This was a pretty start of the holiday to which he had been looking forward so intensely. First nearly drowned, then arrested, and now marched off as a thief. Worse—for these fellows seemed to think he had pushed young Carne overboard.

But Hugh had plenty of sense; he knew it was no good giving way to panic. He braced up. "Where are you taking me?" he demanded.

"You'll see when you get there," Ed answered, with a sneer.

Hugh saw it was no use asking questions. The more he looked at these men the less he trusted them. There was something queer about the whole business. If they had been so keen to find this young Carne why didn't they set about it? They couldn't really believe that he was drowned.

The men went quickly across the field and turned eastwards up the lane. The lane, Hugh thought, must lead past Grenafon, and he decided to shout for help as they came past. Farmer Hawker would not put up with any nonsense.

Hugh didn't have to wait to reach Grenafon. They were hardly in the lane before he saw a policeman tramping along toward them. He noticed that the men checked a moment and looked uncertain, and this made him more sure than ever that there was something crooked afoot. Seth whispered to Ed and they went straight on. Hugh waited until the policeman was within a few paces then called out suddenly, "Officer!"

Ed swore under his breath as the tall, powerfully-built Devon man pulled up. "What's wrong?" he asked. "What are you doing with this lad, Dalton?"

The tall man whom Seth called Ed answered at once.

"He's a thief, Mr Hannaford. He's stole this pocket-book off Mr Arthur Carne. Seth and I was taking him to Glone. The master's a magistrate."

"Sounds like this was my business, not yours, Dalton," answered the policeman, in his deep, quiet voice. "If anyone's to be arrested round here 'tis for me to do it. Now I'd like to hear what proof you got against this young lad as he took this wallet off Mr Carne."

"Mr Arthur Carne went out in the boat, then this here flood come and his uncle were anxious and sent Seth Heath and me to find him. We found the boat on the bank in the meadow below and this boy by it. There wasn't no sign of Mr Arthur, but the boy had Mr Arthur's wallet. You can see for yourself it's his. There's his initials on it and there's money inside."

Hannaford took the wallet and examined it. He nodded. "Aye, there's the initials right enough, and £7 in notes inside." He turned to Hugh. "What's your name?"

"Hugh Kitley. I am staying at Grenafon with my father. We arrived last night. My father had a wire calling him to Plymouth, so I went fishing alone." Hugh went on to tell his story.

Hannaford's face did not change as he listened but Dalton and Heath were scowling. Hannaford spoke. "You didn't say how you come to have the wallet."

"It was lying in the bottom of the boat. I picked it up and shoved it in my pocket to save it from getting wet. Then I forgot all about it. I wasn't trying to hide it, for it was sticking out so that Heath here saw it at once."

"Is that true, Heath?" Hannaford asked, and Heath sulkily admitted that it was so.

Hannaford nodded. "Seems to me the wallet's a small matter compared with what's come of Mr Arthur Carne. I'd have thought you'd have been looking for him, Dalton."

"What's the use?" asked Dalton sulkily. "Odds are he's at the bottom of the river. Easy enough for this lad to push him over."

Hugh flushed. "They have already accused me of that, Mr Hannaford."

Hannaford looked thoughtfully from one to the other, but there was no change of expression on his big, quiet face. His next words surprised Hugh.

"Who is this Mr Arthur Carne, Dalton? I didn't know Mr Caradoc Carne had a nephew with him."

"Not likely you would know," retorted Dalton. "He only come a few days ago. And being a bit funny in his head, Mr Carne didn't take him out."

Again Hannaford considered.

"We'll just go back to the boat and look it over," he remarked calmly.

Hugh could see that Dalton and Heath didn't like this a bit but that they were afraid to object, so they turned and all four went back to the gate and across the field to the boat.

"How was this young man lying?" Hannaford asked Hugh.

Hugh showed him, and pointed to a small bloodstain on the bottom boards of the boat. "He had a cut on the back of his head," he explained. "And I'm pretty sure he got it falling against this thwart."

"Looks like it," Hannaford agreed. He stopped and looked up sharply at a man who was coming quickly towards them across the field.

"Mr Carne himself," he said in his quiet stolid tone.

Mr Caradoc Carne was a slim, active-looking man with sharp features and eyes of a curious grey-green colour.

"Have you found him?" was his first question addressed to Dalton.

Dalton began to speak, but Hannaford raised a huge hand and cut him short.

"I'll explain, if you please," he said, and explain he did—very fairly, Hugh thought.

Carne listened keenly, then spoke in a quick, jerky voice.

"We must find my nephew, Hannaford, that is, if he is still alive. He is not quite right in his head and it will not do to have him wandering, poor fellow. I have my car in the lane. I will go home and collect all the men possible to search for Arthur. I suggest, Hannaford, that you take this boy to the police station and hold him until we can find what truth there is in the accusation against him. If you don't need Dalton and Heath they can go down-stream and see if they can find my nephew—or his body."

He turned and was gone as quickly as he had come.

CHAPTER 4

Arthur Again

Hannaford spoke to Dalton. "You and Heath can push off. I'll attend to this lad."

Dalton scowled, then said something in a low voice to Heath, and the two men went off up-stream. Hannaford, calm as ever, watched them go, and it was not until they were out of sight that he spoke again.

"How bad was this young fellow hurt?" he asked of Hugh.

"I hardly know," Hugh told him. "He was breathing all right and I couldn't see anything wrong but the cut on his head."

"You didn't see anyone else about as you left the boat?"

"No; and unless there was someone hiding in the bushes there was no one near. I'm sure of that for I was looking out sharp for someone to fetch a doctor."

Hannaford nodded, then turned to the big clump of bushes which covered the bank close to where they stood. "Come on out, Mr Carne. No one's going to hurt you."

Hugh could hardly believe his eyes when the bushes parted and the fair-haired boy rose and came toward them. He was very white and looked badly scared, but he walked firmly enough.

"Are you sure my uncle has gone?" were his first words.

"They've all gone," Hannaford assured him. "Did you hear what we was saying?"

"I heard it all," Arthur Carne answered, "especially what my uncle said about my being crazy. It's a lie. I'm no more crazy than he is."

"You don't look it," Hannaford agreed. "I thought all the time there was something funny about this business. Maybe you can tell us the rights of it, Mr Carne."

"I can tell you that," Arthur Carne answered in a hard, sharp voice. "I'm the owner of Glone and Uncle Caradoc is trying to steal it from me."

Hugh saw Hannaford's eyes widen.

"Go on," said the policeman.

"I am the only son of Geoffrey Carne, who was Caradoc's elder brother. My father went sheep-farming in Patagonia. I was born there and have lived there all my life. Dad died two years ago, killed by a fall from his horse. Glone belonged to my grandfather. It was only three months ago I heard he had died—saw it in an English paper—so I came home. It wasn't till I got here that I found my Uncle Caradoc had taken possession of the place. He knew my father was dead, and I suppose he thought I'd never come home to claim the property. He took me in and was quite friendly. It wasn't till next day I found I was a prisoner, and it wasn't till this morning I got a chance of escaping. I twisted a bar out of a window, climbed down, and collared that boat. Then I got caught in the flood. The boat hit something and I took a tumble. I never knew a thing after that until I found the boat ashore. When I came round I didn't waste much time in getting out and hiding. You know the rest."

Hannaford nodded. "It all fits in," he said. "Your uncle hasn't got too good a name round here, and the men he's got about him, they're worse than he."

"Then you won't stop my getting away, officer?" Arthur begged.

Hugh cut in. "What do you want to run away for? If this place, Glone, is yours hadn't you better go and claim it?"

"And get into my uncle's hands again!" Arthur exclaimed in horror.

"You forget," Hugh said, "Hannaford here is with you. He's a policeman, an officer of the law."

Hugh's whole-hearted belief in the police brought a smile at last to Hannaford's grim face.

"He's right, Mr Carne," he said. "But maybe you don't have police in Patagonia."

"Never saw one," Arthur admitted. "What am I to do, then?"

"Reckon we'd better get a car and go along to Glone. If you've got proof you are what you say there won't be no trouble."

"I have proof all right. My birth certificate is in that wallet."

"Glad I kept it," said Hannaford. "You able to walk, Mr Carne?"

"I can that," Arthur declared, and once more they started across the field.

Hannaford said they could get a car from Grimthorpe Farm, but they did not have to go so far. As they came out on the main road at the top of the lane they saw a car coming from the south and Hugh gave a shout. "It's my father, Hannaford. And he's a solicitor, so he'll know what to do."

Mr Kitley pulled up and all three got in. Hannaford told him which way to drive, then Hugh poured the whole story into his father's astonished ears.

"Perfectly amazing!" declared Mr Kitley. "Never ran into such a business before. And fancy down here in the wilds of Devonshire!"

"Never mind that, Dad. What are we going to do?"

Mr Kitley pulled himself together. "Question is rather what Arthur Carne's uncle is going to do. My notion is that he has been turning everything he could into cash and means to make off with the money, and leave his nephew here with the land and the house, and nothing else."

"I'd say you was just about right, Mr Kitley," said Hannaford. "So I reckon what we got to do is to stop him from running away."

"Under the circumstances," said Mr Kitley, "I think we should be perfectly justified in arresting Mr Caradoc Carne." He paused. "Is this the house?"

"That's the house, sir. And if I'm not mistook there's Mr Carne coming out of it in his car."

Mr Kitley put his foot down and the car shot forward. It was only a small car, but was nearly new and in very good order. Carne's car was larger but some years old. As Carne came out of the gate he glanced round and spotted Hannaford and Arthur. Instantly he too put his foot on the accelerator, and the chase was on.

The road surface was good, but it wound along the hillside between high hedges. Mr Kitley drove well—better, indeed, than Caradoc Carne. But he had four people in his car and Carne was alone. The weight made a difference, especially on the upslopes, and Carne began to gain fast.

Hugh's father let the car all out down a long slope. At the bottom was a humped bridge over a brook; beyond was open moor. Carne's car crossed the bridge at such speed it fairly leaped into the air, then it shot up the far hill like a rocket.

Then it happened. A moor pony that had been grazing in a little gully to the left of the road, frightened by the roar, made a sudden dash across the road. Carne braked hard, his car skidded, struck the sloping bank, shot into the air, and landed with a crash on the rough turf. It hit a boulder and turned over.

A gasp came from the throat of everyone of those in Mr Kitley's car, but no one spoke. Less than a minute passed before Mr Kitley pulled up at the scene of the accident, and his car had hardly come to a stop before Hannaford was out and across the bank. Next moment he was pulling Caradoc Carne out of the wreckage.

"Alive," he said. "Not much hurt, either." He laid him on the grass and went back to the car. He took out a bag and opened it. "You were just about right, Mr Kitley," he went on, as he pulled out a great bundle of bank notes. "Here's the cash."

Caradoc Carne went to prison and his nephew went to Glone. As Arthur was under age the court had to appoint a guardian, and for this post Mr Kitley was chosen. Hugh spends all his holidays in Devonshire, and gets such fishing and riding as he never dreamed of.

THE END

JACKO FINDS AN OLD TRAY

Mother Jacko had finished with an old heavy tin tray, and had put it by the dustbin to be thrown away. Jacko swooped on it with glee.

"Let's find a steep hill and have a slide," he said to Baby.

Then they suddenly remembered Mr Pipkin's orchard.

"That's a spiffing place," said Jacko; "there's a fine steep bank in it."

But the worst of it was that Mr Pipkin was always in a fury with anyone who stepped inside his domain.

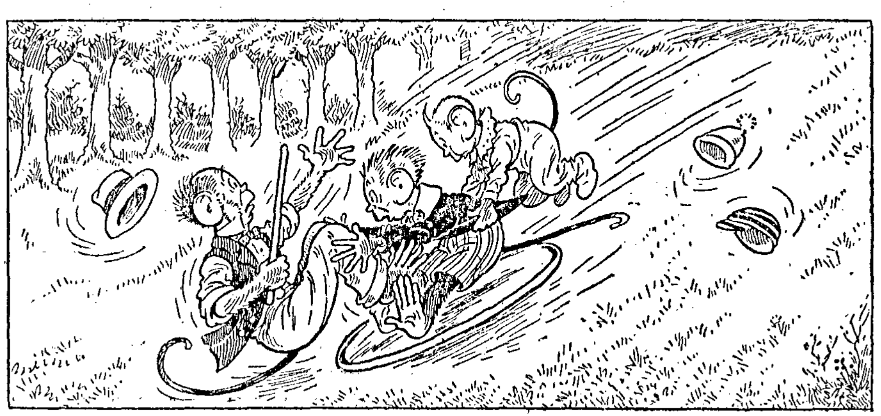
"Pooh!" jeered Jacko, when Adolphus reminded him of this. "Come on, Baby!"

The orchard bank was splendid going; in fact the boys enjoyed it so much that they began to scream with joy.

"'Pon my word!" muttered Mr Pipkin, as he was reading The Daily Dumps. "If that isn't a shout coming from my orchard!" And seizing a big stick out he strode.

"Whoops!" yelled Jacko, and down sped the tray with him on it and Baby clinging on behind.

They just reached the bottom of the slope as Mr Pipkin did, where they all collided in a bunch. Over went Mr Pipkin, his feet in the air, his stick dropping from his hand.



They all reached the bottom together

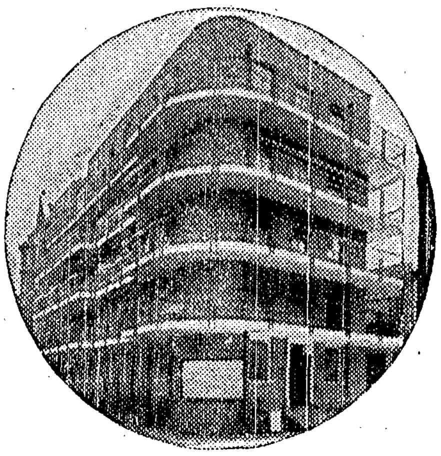
Jacko grabbed at it.

"I'll teach you!" cried Mr Pipkin, struggling to rise.

But Jacko and Baby were off with their tray and the stick through a gap in the hedge, and Mr Pipkin was after them too late.

Next morning Jacko left the stick on Mr Pipkin's doorstep with a note saying, "Many thanks for the spiffing slide."

SEND YOUR MITE FOR OUR MITES IN THE INFANTS HOSPITAL!



THE INFANTS HOSPITAL—the first Hospital of its kind to be founded in Europe—was established in 1903 for the treatment of the diseases and disorders of nutrition. There are now 100 cots; accommodation for seven Nursing Mothers; an Out-patient Department; X-Ray; Artificial Sunlight and Massage Departments; a Research Laboratory; a Lecture Theatre; and a Milk Laboratory. The work carried on in the wards is supplemented by the Convalescent Home at Burnham, Bucks, with eighteen cots.

THE HOSPITAL IS ENTIRELY DEPENDENT UPON VOLUNTARY CONTRIBUTIONS FOR ITS MAINTENANCE.

FUNDS ARE URGENTLY NEEDED

President: H.R.H. THE PRINCESS ROYAL.

Subscriptions will be gratefully received and acknowledged by the Secretary:

THE INFANTS HOSPITAL
Vincent Square, Westminster, S.W.1

The World's Most Up-to-Date Boys' Paper!

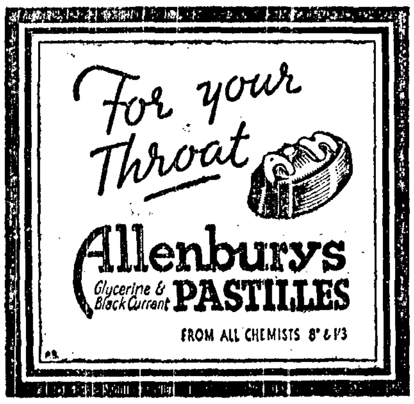
MODERN BOY keeps you ahead of the news! You will find described and pictured in its pages not only the latest mechanical marvels of today, but also those of tomorrow. In addition, it contains tiptop stories by the world's finest boy's authors. Buy a copy today!

MODERN BOY

Every Saturday, at all Newsagents - 2d

AGENTS WANTED. — PRIVATE — CHRISTMAS CARDS.

Most fascinating and profitable agency known.
World-famed "Orient" Sample Book
CARRIAGE PAID.
Exquisite **CALENDARS; ANIMAL STUDIES. GREETING CARDS and NOVELTIES.**
HIGHEST COMMISSION AND PRIZES.
(Dept. 342),
HAMILTON'S, ORIENT WORKS, BLACKBURN.



For your Throat
Allenburys
Glycerine & Black Currant PASTILLES
FROM ALL CHEMISTS 8d & 1/3

All enquiries concerning advertisement space in this publication should be addressed to: The Advertisement Manager, THE CHILDREN'S NEWSPAPER, Tallis House, Tallis Street, London, E.C.4.

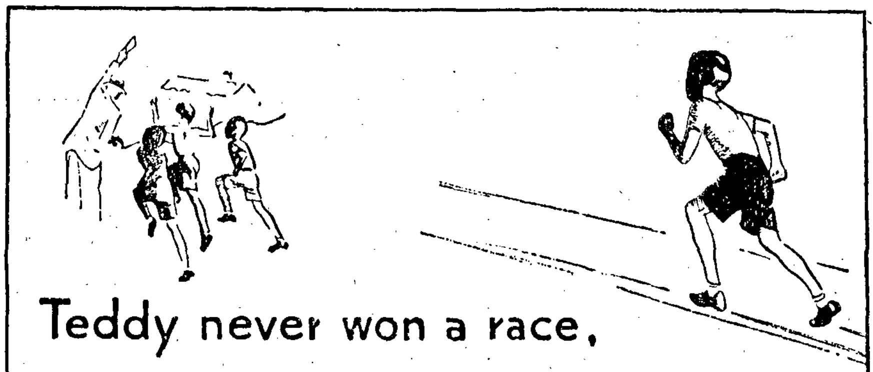
THE TRINIDAD, TOBAGO & CAYMANS CORONATION PACKET FREE!

Send for this excellent packet of 30 different stamps immediately. There are stamps from the British Colonies and new European countries, old G.B., King George stamps from Australia and Straits Settlements, Swiss (William Tell), Denmark (ship), Norway, and set of 4 Hungarians (renowned men). Finally, there are beautiful large CORONATION stamps from Cayman Isles, Trinidad and Tobago, depicting our King and Queen. Absolutely free. Just send 2d. postage, requesting approvals.—**LISBURN & TOWNSEND (C.N.), LIVERPOOL 3.**

Collections purchased. Highest prices paid.

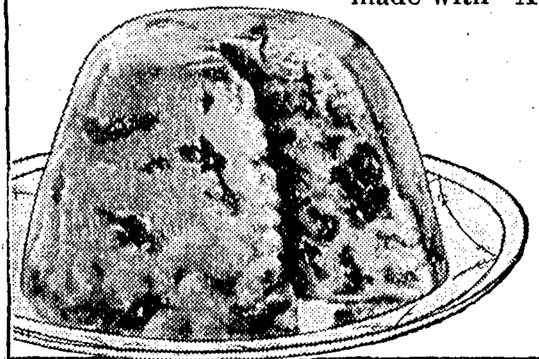
800 Sickly Stepney Children

from very poor homes are being given a fortnight at a Convalescent Home this year. Cost, 30/- each. Please send a generous contribution to
The Rev. Percy Ineson, Superintendent,
EAST END MISSION,
Central Hall, Bromley St., Commercial Rd., Stepney, E.1



Teddy never won a race,
Was too tired to make the pace.
Then his mother took advice:
Result – Atora puddings nice.
Teddy ate them day by day,
And grew stronger every way.
– Now every race is won by Ted –
Because he is Atora fed!

Medical testimony proves that the children—and adults—with weakly and "chesty" tendencies, who most need nourishing fat, are the ones who don't like it. But "Atora"—the best of the beef—makes up for all deficiencies in diet, and there are very few, young or old, who cannot be tempted with a light and dainty pudding. But it must be made with "Atora."



Send a postcard to-day for a post free copy of 100 best pudding, etc., Recipes, to HUGON & Co., Ltd., Manchester, 11.

N.554

Hugon's
ATORA
THE GOOD BEEF SUET

The Children's Newspaper will be delivered every week at any house in the world for 11s a year. See below.

CHILDREN'S NEWSPAPER
September 25, 1937
Every Thursday 2d

Arthur Mee's Children's Encyclopedia will be delivered anywhere by the Educational Book Co., Tallis Street, E.C.4.

THE BRAN TUB

The Seven Diners

THERE were seven men who dined at regular intervals at a certain restaurant. The first visited the place every day, the second every second day, the third every third day, the fourth every fourth day, and so on. One day the landlord declared that he would give a free meal to all these seven guests on the first day that they all arrived together. They continued their regular visits, and at last, one day, they all arrived at the place together.

When was this ?

Answer next week

Schooldays

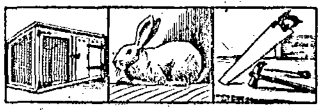
WITH stiff exams ahead, they say,
A spot of cramming must be done.
And, suiting action to the word,
Smith crammed—a large and spicy bun !

The Speedy Crow

ONE of our familiar birds is the crow. Its slow flight from field to field at a seemingly never-changing speed makes us think that it can only travel at the same rate.

But, a New York bird-watcher says, the crow can travel a mile in a minute !

Ici on Parle Français



Le clapier *hutch* **Le lapin** *rabbit* **Les outils** *tools*

Jean fabrique un clapier pour ses lapins blancs. Ses outils neufs lui sont bien utiles.

John is making a hutch for his white rabbits. His new tools are coming in handy.

Luminous Moss

AN interesting novelty for the rock garden is the luminous moss (Schistostega). This tiny moss, a native of Central Europe, shows iridescent shades of colour by day and glows with a soft golden light after dark. Rocks on which this moss is growing seem in the day to be scattered with a mixture of gold and the material that forms the wings of humming-birds. The luminous moss grows in caves where the light is very dim.

At the ends of its branches it has little globes which act like the lenses of a cat's eyes, collecting the scanty rays of light, and each of these globes shines like a bright disc. By this means the light is concentrated on the plant where it most needs it.

Dr Jenner's Ducks

THE following was sent, with a couple of ducks, to a patient by Dr Jenner.

I've despatched, my dear madam, this scrap of a letter,
To say that Miss Blank is very much better ;
A regular doctor no longer she lacks,
And therefore I've sent her a couple of quacks.

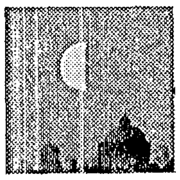
Buried Poets

IN the following sentence are buried the names of three British poets.

He who, oddly enough, could unmake a tsar could not keep open the door of power for himself.

Answer next week

Other Worlds Next Week

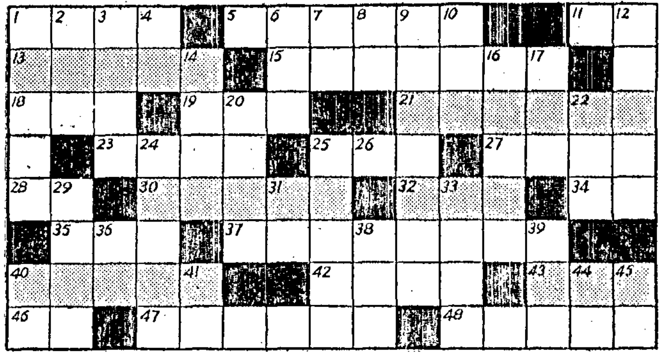


IN the evening Mars and Jupiter are in the South-West, and Saturn is in the South-East. In the morning Venus and Mercury are in the East. The picture shows the Moon at eight o'clock on Tuesday morning, September 28.

The C N Cross Word Puzzle

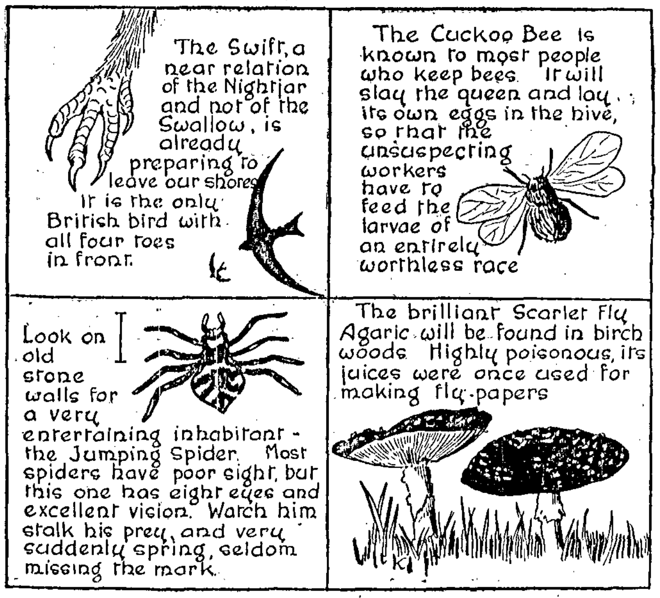
A well-known proverb is hidden in this puzzle, the words appearing in the lightly shaded squares. Abbreviations are indicated by asterisks. *Answer next week*

Reading Across. **1.** A desert dweller. **5.** A portmanteau. **11.** Elevated. **13.** Stinging insects. **15.** The most damp. **18.** Used in electricity.* **19.** To know. **21.** Perpetually. **23.** This rises to the top when jam is boiling. **25.** A knight. **27.** Greek god of Love. **28.** Early English.* **30.** To frequent. **32.** Definite article. **34.** North-east.* **35.** Part of the foot. **37.** Little stars. **40.** A sweet juice, from flowers. **42.** To produce. **43.** Vessel used for cooking. **46.** Indefinite article. **47.** Slept. **48.** Used at mealtimes.



Reading Down. **1.** Apprised. **2.** A sheep. **3.** Poisonous snakes. **4.** The Chief Scout.* **6.** The beard of corn or grass. **7.** French for *the*. **8.** Pronoun. **9.** Frighten. **10.** Snakelike fish. **12.** A small body of men. **14.** A large kind of gull. **16.** Tasting like sugar. **17.** Black liquid obtained from coal. **20.** Big Australian birds. **22.** Poetic term for yonder. **24.** Shout for joy. **25.** To express clearly. **29.** Famous public school. **31.** New Testament.* **33.** Plant used for making rope. **36.** Above and touching. **38.** A primary colour. **39.** A place having a mineral spring. **40.** Interjection expressing triumph. **41.** Old way of writing *you*. **44.** Old Testament.* **45.** Note in tonic-solfa scale.

In the Countryside Now



The Swift, a near relation of the Nightjar and not of the Swallow, is already preparing to leave our shores. It is the only British bird with all four toes in front.

The Cuckoo Bee is known to most people who keep bees. It will slay the queen and lay its own eggs in the hive, so that the unsuspecting workers have to feed the larvae of an entirely worthless race

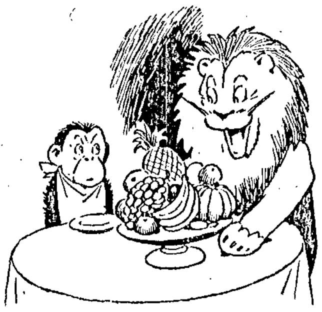
Look on old stone walls for a very entertaining inhabitant - the Jumping Spider. Most spiders have poor sight, but this one has eight eyes and excellent vision. Watch him stalk his prey, and very suddenly spring, seldom missing the mark.

The brilliant Scarlet Fly Agaric will be found in birch woods. Highly poisonous, its juices were once used for making fly-papers

What Happened on Your Birthday

Sept. 26.	Admiral Collingwood born at Newcastle	1750
27.	Vincent de Paul died	1660
28.	Louis Pasteur died	1895
29.	Lord Nelson born	1758
30.	George Whitefield died	1770
Oct. 1.	Henry III born	1207
2.	Richard III born	1452

The Lion's Share



PRAY feel no alarm,
For I'll do you no harm
Though I'm called a carnivorous brute.
By my doctor's advice
I now dine upon rice,
And for tea I have nothing but fruit.

Anagram Puzzle

FIVE letters take,
And you can make
First excellence,
Just to commence ;
And then a word
Quite often heard
Prefixed by "old."
Next you unfold
A verb which means
"Send back." Then scenes
Of sanctity
Come finally.
By bishops worn,
This doth adorn
The heads of these
Who govern Sees.

Answer next week

Like Lightning

TWO friends were building a garden shed.

"You hammer nails just like lightning," said Tom.

"Yes," replied Dick, "I am rather quick at it."

"No," answered Tom. "You never strike twice in the same place."

LAST WEEK'S ANSWERS

Arithmetical Puzzle

Letters of the alphabet
TWENTY =6 letters
SIX =3 letters
NINE =4 letters
TWELVE =6 letters
FIVE =4 letters

Mystery Quotation. Nothing extenuate nor set down aught in malice. (The word aught is mixed up inside the word malice.)

The Master and His Pupils. 28

Can You Catch These Fish ? The fish in the lines across were : perch, eel, goldfish, minnow, roach, pike. Those down were : salmon, sprat, cod, trout, carp, rudd.

Tales Before Bedtime

The Mouse That Mewed

RHODA and Elizabeth were excited when Grandad asked them to stay. They always enjoyed staying with their grandparents, but this time they were especially pleased, for Grandad had just moved into a lovely little house in the country.

The twins liked everything, the house and garden, and the barn where they could play when it was wet. But most of all they liked their bedroom. It was really the attic, but so pretty. There were two little white beds and two white dressing-tables, and white woolly rugs on the floor. And there was the dearest little dormer window with white muslin curtains moving in the breeze.

"Oh, Grandma, how lovely ! " said the two little girls.

"You see," smiled Grandma, "we expect you to stay here quite a lot."

That night Rhoda and Elizabeth lay watching the stars through the little window. They were very happy. But suddenly Rhoda heard a soft thud, and then a little rustling sound. She lay quite still, trying not to breathe.

There was a rustling and a scratching.

"Elizabeth ! " she whispered. "Can you hear it ? "

"Yes ! " said Elizabeth, "you can come into my bed."

"I daren't," said Rhoda in a small voice.

So Elizabeth screwed up her courage and took a mighty leap into Rhoda's bed.

For a moment the rustling stopped ; then it began again.

"It's a mouse," said Rhoda, in a frightened whisper.

"They always have them in the country," said Elizabeth. "Big, hungry ones."

"Oh, don't ! " said Rhoda, shuddering.

Just then came a very loud rustle and a squeaking sound. This was too much. "Oh, help ! " shrieked the twins at the top of their voices.

"Why, whatever is the matter ? " said Grandad from the doorway.

"A mouse ! " shuddered Elizabeth.

"I heard it mew ! " said Rhoda, with a shiver.

Grandad switched on the light. There were the two white beds, the two little girls clinging together—and there from under a heap of tissue paper, with a proud swagger and a last defiant rustle, came Black Tom, the cat !

"So there's your mouse ! " cried Grandad, laughing. "He must have come in through the window. Well, well ! " he added. "That's the first time I ever heard of a mouse that mewed."

AN INTERESTING COMPETITION
First Prize £10 Second Prize £5

THAT new bicycle you are thinking of; those books or sports gear which you want—why not try to win the money for them in this interesting competition ? Every girl or boy can enter and all stand a chance of winning large money prizes.
Genozo Toothpaste will make your teeth beautifully white and clean. It does not harm the enamel AND it contains a special emulsion which protects your gums against germs.

Ask mother to get a tube of Genozo, THE CHILDREN'S FAVOURITE DENTIFRICE, and ask your chemist for details of the competition, or send a post-card to GENATOSAN LTD., LOUGHBOROUGH.

GENOZO BRAND TOOTH PASTE
GENOZO IS IN THREE SIZES 6D 1/- & 1/6 Per Tube FROM ALL CHEMISTS
Made by Genatosan Ltd., Loughborough, Leics.

THE HOUSES OF PARLIAMENT IN HISTORY
1 Benjamin Disraeli

Benjamin Disraeli was a very famous man, but when first he entered Parliament no-one realised how clever he was. His maiden speech was howled down by jeers and laughter, but he just said, "You laugh now, but the time will come when you *will* hear me." Of course he was right, for he became Queen Victoria's Prime Minister and one of England's celebrated statesmen.

Of course you know H.P. means Houses of Parliament. H.P. Sauce is famous for its excellence and tastiness—it gives good appetite and aids your digestion.

H P SAUCE
Large bottle 9D.
Picnic size 3d.

The Children's Newspaper is printed in England and published every Thursday by the Proprietors, The Amalgamated Press, Ltd., The Fleetway House, Farringdon Street, London, E.C.4. Advertisement Offices: Tallis House, Tallis Street, London, E.C.4. It is registered as a newspaper for transmission by Canadian Magazine Post. Entered as Second-Class Matter, January 15, 1929, at the Post Office, Boston, Mass. Subscription Rates everywhere; 11s a year; 5s 6d for six months. It can also be obtained from the Sole Agents for Australia and New Zealand; Messrs Gordon & Gotch, Ltd.; and for South Africa; Central News Agency, Ltd. September 25, 1937.
S.L.